

Raw Data



P. m'calli experimentSunrise - sunset (35°N)

June 21 — 4:46 to 19:16 (14½ hours)  
Oct. 15 — 6:06 to 17:25 (11¼ hours)  
Oct. 31 — 6:20 to 17:07 (10¾ hours)  
August 15 — 5:20 to 18:48 (13½ hours)

Sept. activity

Actual: 0730 to 1130; 1600 to 1800 (7 hours)  
Potential: 0730 to 1800 (10½ hours)

Respirometer readingsChanges on blank

- 1) When it goes to a smaller #, subtract from total.  
ex: 61 to 59 — subtract 2
- 2) When it goes to a larger #, add to total  
ex: 61 to 64 — add 3



PHRYNOSOMA M'CALLI LIGHT EXPERIMENT

9/1/64

ANIMAL No.	WEIGHT (gms) 6/10	WEIGHT (gms) 9/1	DIFFERENCE (gms)	% WEIGHT LOSS
6 HOURS LIGHT				
1	23.8	15.3	- 8.5	35.8
4	17.4	11.8	- 5.6	32.2
8	19.9	12.9	- 7.0	36.8
11	14.6	13.5	- 1.1	7.5
12	15.8	8.9	- 6.9	43.6
13	15.5	14.3	- 1.2	7.7
14	18.2	13.1	- 5.1	28.0
15 HOURS LIGHT				
2	11.4	9.6	- 1.8	15.8
3	19.9	22.1	+ 2.2	11.0 (GAIN)
6	18.2	17.0	- 1.2	6.6
7	16.8	21.5	+ 4.7	28.0 (GAIN)
9	12.2	9.9	- 2.3	18.7
15	16.3	9.1	- 7.2	44.2
16	18.2	8.8	- 9.4	51.6

AVERAGE WEIGHT LOSS BY 15 HR. 14.0%  
 " " " " 6 HR. 21.4%



Digitized by the Internet Archive  
in 2017 with funding from  
CLIR

<https://archive.org/details/reptilehibernati00mayh>



PHRYNOSOMA M'CALLI

Lizard Source - Field (caught 8/22/63)

Temperature - 15°C

Jar	Lizard No.	Sex	Weight (gms.)	Date	Time (min.)	Blank start	Blank stop	Manometer start	Manometer stop	Manometer corrected	Total O <sub>2</sub> /hr.	O <sub>2</sub> (cc/gm/hr)
1	120	♂	12.0	8/23/63	15	.55	.58	.66	.61	.08	0.32	.02
					15	.54	.15	.77	.39	—	—	—
					15	.27	.18	.83	.55	.19	0.76	.06
					20	.20	.23	.68	.65	.06	0.18	.01
2	122	♂	15.6	"	15	.55	.58	.65	.28	.40	1.60	.10
					15	.54	.15	.73	.12	.22	0.88	.05
					15	.27	.18	.82	.08	.65	2.60	.16
					20	.20	.23	.67	.02	.68	2.04	.13
3	124	♀	15.3	"	15	.55	.58	—	—	—	—	—
					15	.54	.15	.92	.55	—	—	—
					15	.27	.18	.86	.58	.19	0.76	.04
					20	.20	.23	.62	.49	.16	0.48	.03
4	121	♂	10.3	"	15	.55	.58	.61	.74	—	—	—
					15	.54	.15	.79	.43	—	—	—
					15	.27	.18	.92	.71	.12	0.48	.04
					20	.20	.23	.76	.70	.09	0.27	.02
5	125	♀	12.6	"	15	.55	.58	.77	.80	—	—	—
					15	.54	.15	.76	.34	.03	0.12	.01
					15	.27	.18	.82	.53	.20	0.80	.06
					20	.20	.23	.61	.45	.19	0.57	.04
6	119	♀	14.4	"	15	.55	.58	.80	.75	.08	0.32	.02
					15	.54	.15	.81	.42	—	—	—
					15	.27	.18	.86	.64	.13	0.52	.03
					20	.20	.23	.67	.60	.10	0.30	.02
7	118	♀	18.3	"	15	.55	.58	.78	.67	.14	0.56	.03
					15	.54	.15	.84	.47	—	—	—
					15	.27	.18	.93	.83	.01	0.04	—
					20	.20	.23	.81	.47	.37	1.11	.06
8	123	♀	20.0	"	15	.55	.58	.77	.43	.37	1.48	.07
					15	.54	.15	.75	.03	.33	1.32	.06
					15	.27	.18	.84	.04	.71	2.84	.14

(over) Barometer: 734 mm.



<u>Jar</u>	<u>Lizard</u>	<u>Sex</u>	<u>Weight</u>	<u>Date</u>	<u>Time</u>	<u>Blank</u>		<u>Manometer</u>			<u>Total</u>	<u>O<sub>2</sub></u>
						<u>start</u>	<u>stop</u>	<u>start</u>	<u>stop</u>	<u>corrected</u>	<u>O<sub>2</sub>/hr.</u>	<u>(cc/gm/hr)</u>
8	123	♀	20.0	8/23/63	20	.20	.23	.79	.00	.82	2.46	.12



Lizard Source - Outdoor cage

Temperature - 15°C

Jar	Lizard No.	sex	Weight (gms.)	Date	Time (min.)	Blank start	Blank stop	start	stop	corrected	Total O <sub>2</sub> /hr	O <sub>2</sub> (cc/gm/hr)
1	97	♀	20.0	8/16/63	15	.49	.83	.89	.83	.40	1.60	.08
				"	18	.49	.53	.89	.49	.44	1.46	.07
				"	15	.67	.57	.85	.38	.37	1.48	.07
3	200+109	♀	15.0	"	15	.67	.57	.81	.60	.11	0.44	.02
5	287	♀	14.8	"	15	.67	.57	.81	.20	.51	2.04	.13
6	103	♂	16.2	"	15	.67	.57	.95	.48	.37	1.48	.09
7	51	♀	17.6	"	15	.67	.57	.67	.58	—	—	—

Field animals (caught 8/18/63)

1	Juv.	♀	3.9	8/19/63	5	.51	.43	.77	.66	.03	0.36	.09
				"	5	.43	.60	.66	.76	.07	0.84	.21
				"	5	.60	.81	.76	.91	.06	0.72	.18
				"	5	.81	.61	.91	.75	—	—	—
				"	3	.61	.49	.75	.62	.01	0.20	.05
2	Ad.	♂	12.7	"	<del>5</del>	<del>.51</del>	<del>.43</del>	<del>.93</del>	<del>.56</del>	<del>.29</del>	<del>3.48</del>	<del>.27?</del>
				"	<del>5</del>	<del>.43</del>	<del>.60</del>	<del>.56</del>	<del>.47</del>	<del>.26</del>	<del>3.12</del>	<del>.24?</del>
				"	5	.60	.81	.47	.49	.19	2.28	.17
				"	5	.81	.61	.49	.23	.06	0.72	.05
				"	3	.61	.49	.23	.08	.05	1.00	.07
3	Ad.	♀	11.5	"	<del>5</del>	<del>.51</del>	<del>.43</del>	<del>.60</del>	<del>.32</del>	<del>.20</del>	<del>2.40</del>	<del>.20?</del>
				"	5	.43	.60	.32	.38	.11	1.32	.11
				"	5	.60	.81	.38	.49	.10	1.20	.10
				"	5	.81	.61	.49	.17	.12	1.44	.12
				"	3	.61	.49	.17	.01	.04	0.80	.06

These animals were run continuously for 23 minutes without resetting.

Summary

1	Juv.	♀	3.9	8/19/63	23	.51	.49	.77	.62	.13	0.34	.09
2	Ad.	♂	12.7	"	23	.51	.49	.93	.08	.83	2.16	.17
3	Ad.	♀	11.5	"	23	.51	.49	.60	.01	.57	1.48	.13

Barometer: 8/19/63 - 732 mm.





PHRYNOSOMA M'CALLI

Lizard Source - Outdoor cage

Temperature - 15°C

Jar	Lizard No.	Sex	Weight (gms.)	Date	Time (min.)	Blank		Manometer			Total O <sub>2</sub> /hr.	O <sub>2</sub> (cc/gm/hr)
						start	stop	start	stop	corrected		
1	110	♀	18.7	8/15/63	15	.54	.53	.74	.47	.26	1.04	.06
				8/16/63	<del>8</del>	<del>.67</del>	<del>.57</del>	<del>.85</del>	<del>.00</del>	<del>.75</del>	<del>5.62</del>	<del>.30</del>
				8/16/63	6	<del>.57</del>	<del>.88</del>	.75	.72	.34	3.40	.18
2	200+109	♀	15.0	8/15/63	15	.54	.53	.83	.53	.29	1.16	.08
				8/16/63	15	.49	.83	.81	.77	.38	1.52	.10
				8/16/63	18	.49	.53	.81	.52	.33	1.10	.07
3	103	♂	16.2	8/15/63	15	.54	.53	.82	.71	.10	0.40	.02
				8/16/63	15	.49	.83	.81	.67	.48	1.92	.11
				8/16/63	18	.49	.53	.81	.28	.57	1.90	.11
4	287	♀	14.8	8/15/63	15	.54	.53	.79 (Active)	.00	.78	3.12	.21
				8/16/63	15	.49	.83	.78	.42	.70	2.80	.18
				8/16/63	18	.49	.53	.78	.07	.75	2.50	.16
5	51	♀	17.6	8/15/63	15	.54	.53	.84	.49	.34	1.36	.07
				8/16/63	15	.49	.83	.76	.61	.49	1.96	.11
				8/16/63	18	.49	.53	.76	.59	.21	0.70	.03
1	97	♀	20.0	8/16/63	12	.63	.54	.94 (Active)	.00	.85	4.25	.21
				"	14	.44	.16	.87 (Active)	.00	.59	2.52	.12
				"	15	.56	.25	.84	.33	.20	0.80	.04
2	299	♂	14.3	"	15	.63	.54	.84	.47	.28	1.12	.07
				"	15	.44	.16	.82	.42	.12	0.48	.03
				"	<del>15</del>	<del>.56</del>	<del>.25</del>	<del>.93</del>	<del>.61</del>	<del>.01</del>	<del>0.04</del>	<del>.00</del>
3	101	♂	17.4	"	15	.63	.54	.87	.55	.23	0.92	.05
				"	15	.44	.16	.68	.23	.17	0.68	.03
				"	15	.56	.25	.90	.54	.05	0.20	.01
4	117	♂	16.4	"	18	.49	.53	.88	.87	.05	0.17	.01
				"	15	.67	.57	.91	.74	.07	0.28	.01
				"	15	.56	.25	.78	.28	.19	0.76	.04
5	105	♂	12.1	"	15	.63	.54	.96	.52	.35	1.40	.11
				"	15	.44	.16	.79	.48	.03	0.12	.01
				"	15	.56	.25	.92	.54	.07	0.28	.02

Barometer: 8/15/63 - 732 mm.

8/16/63 - 734 mm.





PHRYNOSOMA M'CALLI

Lizard Source — Cold room

Temperature — 15°C

Jar	Lizard No.	Sex	Weight (gms)	Date	Time (min)	Blank		Manometer			Total O <sub>2</sub> /hr.	O <sub>2</sub> (cc/gm/hr)
						start	stop	start	stop	corrected		
1	103	♂	14.1	9/2/63	15	.60	.41	.90	.23	.48	1.92	.13
					20	.46	.60	.79	.64	.29	0.87	.06
					20	.68	.89	.63	.56	.28	0.84	.05
					18	.83	.95	.56	.37	.31	1.03	.07
2	105	♂	10.3	"	15	.60	.41	.88	.33	.36	1.44	.13
					20	.46	.60	.65	.30	.49	1.47	.14
					20	.68	.89	.66	.32	.55	1.65	.16
					18	.83	.95	.82	.34	.60	1.98	.19
3	110	♀	16.7	"	15	.60	.41	.81	.25	.37	1.48	.08
					20	.46	.60	.73	.48	.39	1.17	.07
					20	.68	.89	.53	.42	.32	0.96	.05
					18	.83	.95	.80	.68	.24	0.80	.04
4	97	♀	20.0	"	15	.60	.41	.80	.02	.59	2.36	.11
					20	.46	.60	.80	.10	.84	2.52	.12
					20	.68	.89	.77	.27	.71	2.13	.10
					18	.83	.95	.74	.22	.64	2.13	.10
5	<del>200-109</del> 299	♂	12.6	"	15	.60	.41	.92	.59	.14	0.56	.04
					20	.46	.60	.86	.87	.13	0.39	.03
					20	.68	.89	.93	.96	.18	0.54	.04
					18	.83	.95	.77	.86	.03	0.10	—

Barometer: 733 mm.



Lizard Source — Cold room

Temperature — 15°C

Jar	Lizard No.	Sex	Weight (gms.)	Date	Time (min.)	Blank		Manometer			Total O <sub>2</sub> /hr	O <sub>2</sub> (cc/gm/hr)	
						start	stop	start	stop	corrected			
1	117	♂	14.1	9/3/63	20	.53	.66	.54	.12	.55	1.65	.11	
					"	20	.61	.66	.78	.27	.56	1.68	.11
					"	20	.64	.72	.73	.64	.17	0.51	.03
					"	20	.73	.85	.68	.58	.22	0.66	.04
2	287	♀	13.5	"	20	.53	.66	.72	.53	.32	0.96	.07	
					"	20	.61	.66	.50	.39	.16	0.48	.03
					"	20	.64	.72	.65	.54	.19	0.57	.04
					"	20	.73	.85	.54	.48	.18	0.54	.04
3	200+109	♀	13.2	"	20	.53	.66	.45	.10	.48	1.44	.10	
					"	20	.61	.66	.76	.17	.64	1.92	.14
					"	20	.64	.72	.65	.01	.72	2.16	.16
					"	18	.73	.83	.72	.00	.82	2.71	.20
4	86	♀	16.2	"	20	.53	.66	.78	.71	.20	0.60	.03	
					"	20	.61	.66	.71	.69	.07	0.21	.01
					"	20	.64	.72	.69	.68	.09	0.27	.01
					"	20	.73	.85	.68	.66	.14	0.42	.02
5	101	♂	15.3	"	20	.53	.66	.41	.23	.31	0.93	.06	
					"	20	.61	.66	.69	.52	.22	0.66	.04
					"	20	.64	.72	.69	.58	.19	0.57	.03
					"	20	.73	.85	.59	.39	.32	0.96	.06

Barometer: 733 mm.





Lizard source — 15°C cage (dark)

15°C

Jar	Lizard No.	Sex	Weight (gms)	Date	Time (min)	<u>Blank</u> <del>Manometer</del>		<u>Manometer</u>			Total O <sub>2</sub> /hr	O <sub>2</sub> (cc/gm/hr)
						start	stop	start	stop	corrected		
2	85	♀	20.1	12/11/63	20	.59	.42	.80	.62	<del>.01</del> .01	0.03	.001
					20	.59	.52	.77	.68	.08	0.06	.003
					20	.66	.64	.74	.61	.11	0.33	.016
6	45	♂	9.4	12/13/63	20	.50	.31	.80	.36	.25	0.75	.08
					20	.56	.42	.83	.63	.06	0.18	.019
					20	.43	.32	.84	.71	.02	0.06	.001
4	86	♀	19.8	12/16/63	20	.66	.55	.97	.37	.49	1.47	.07
					20	.53	.53	.80	.22	.58	1.74	.09
					20	.53	.48	.82	.46	.31	0.93	.05
3	103+20+30	♂	17.3	12/17/63	20	.57	.47	.83	.69	.04	0.12	.01
					20	.47	.42	.91	.76	.10	0.30	.02
					20	.48	.40	.85	.70	.07	0.21	.01
8	200+109	♀	14.6	12/18/63	20	.51	.45	.90	.66	.18	0.54	.04
					20	.55	.59	.79	.55	.28	0.84	.06
					15	.60	.59	.43	.01	.41	1.64	.11
					20	.55	.52	.81	.60	.18	0.54	.04





Lizard source - 15°C cage (light)

15°C

PHRYNOSOMA M. C. 110

Jar	Lizard No.	Sex	Weight (gms)	Date	Time (min)	Blank start	Blank stop	Manometer start	Manometer stop	Manometer corrected	Total O <sub>2</sub> /hr	O <sub>2</sub> (cc/gm/hr)
1	81	♂	16.3	12/11/63	20	.59	.42	.79	.50	.12	0.36	.02
					20	.59	.52	.80	.66	.07	0.21	.01
			(omit)		20	.66	.64	.76	.74	.00	0.00	.00
4	299	♂	14.0	12/13/63	20	.50	.31	.84	.05	.60	1.80	.13
					20	.56	.42	.85	.04	.67	2.01	.14
					20	.43	.32	.86	.37	.38	1.14	.08
6	67	♀	17.0	12/16/63	12	.66	.58	.78	.21	.49	2.45	.14
					15	.53	.54	.86	.19	.68	2.72	.16
					7	.58	.55	.83	.48	.32	2.75	.16
					20	.53	.48	.81	.15	.61	1.83	.11
6	54	♂	13.5	12/17/63	20	.57	.47	.81	.22	.49	1.47	.11
					20	.47	.42	.83	.22	.56	1.68	.12
					20	.48	.40	.89	.25	.56	1.68	.12
5	71	♂	20.3	12/18/63	15	.51	.41	.88	.04	.74	2.96	.14
					15	.55	.60	.80	.20	.65	2.60	.13
					15	.60	.59	.83	.04	.78	3.12	.15
					20	.55	.52	.76	.58	.15	0.45	.02
3	41	♀	17.1	12/20/63	20	.57	.46	.80	.65	.04	0.12	.01
					20	.45	.38	.92	.82	.03	0.09	.01
					20	.38	.58	.82	.95	.07	0.21	.01



Jar	Lizard No.	Sex	Weight (gms)	Date	Time (min)	Blank		Manometer			Total O <sub>2</sub> /hr	O <sub>2</sub> (cc/gm/hr)
						start	stop	start	stop	corrected		
5	297	♂	17.8	12/11/63	7	.59	.45	.74	.23	.37	3.18	.18
					15	.59	.37	.79	.06	.51	2.04	.11
					10	.42	.33	.80	.01	.70	4.20	.24
					20	.66	.64	.86	.79	.05	0.15	.01
5	97	♀	16.6	12/13/63	20	.50	.31	.82	.28	.35	1.05	.06
					20	.56	.42	.83	.00	.69	2.07	.12
					20	.43	.32	.88	.26	.51	1.53	.09
					16	.52	.30	.93	.17	.54	2.02	.12
1	39	♀	17.6	12/16/63	20	.66	.55	.96	.60	.25	0.75	.04
					20	.53	.53	.82	.62	.20	0.60	.03
					20	.53	.48	.94	.82	.07	0.21	.01
2	102	♀	20.0	12/17/63	20	.57	.47	.95	.82	.03	0.09	.004
					20	.47	.42	.79	.55	.19	0.57	.03
					20	.48	.40	.78	.63	.07	0.21	.01
3	37	♀	18.5	12/18/63	20	.51	.45	.79	.65	.08	0.24	.01
					20	.55	.59	.85	.83	—	—	—
					20	.60	.56	.83	.73	.06	0.18	.01
1	108	♂	10.4	12/18/63	20	.55	.52	.72	.64	.05	0.15	.01
					20	.51	.45	.79	.71	.02	0.06	.01
					20	.60	.56	.91	.80	.05	0.15	.01
					20	.55	.52	.78	.72	.03	0.09	.01
7	87	♂	13.3	12/18/63	20	.55	.59	.93	.90	.07	0.21	.02
					20	.60	.56	.91	.83	.04	0.12	.01
					20	.55	.52	.83	.73	.07	0.21	.02
6	64	♀	19.4	12/18/63	20	.51	.45	.91	.79	.06	0.18	.01
					20	.55	.59	.89	.87	.06	0.18	.01
					20	.60	.56	.87	.78	.05	0.15	.01
					20	.55	.52	.75	.67	.05	0.15	.01
8	29	♀	12.5	12/19/63	20	.51	.36	.90	.63	.12	0.36	.03
					20	.62	.61	.97	.91	.05	0.15	.01
					20	.65	.72	.93	.99	.01	0.03	.002





Lizard source — 25°C cage

15°C

Jar	Lizard No.	Sex	Weight (gms)	Date	Time (min)	Blank		Manometer			Total O <sub>2</sub> /hr	O <sub>2</sub> (cc/gm/hr)
						start	stop	start	stop	corrected		
6	23	♀	17.5	12/19/63	20	.51	.36	.88	.69	.04	0.12	.01
					20	.62	.61	.47	.44	.05	0.15	.01
					20	.65	.72	.75	.71	.11	0.33	.02
1	292	♂	14.3	12/20/63	20	.57	.46	.87	.53	.23	0.69	.05
					20	.45	.38	.86	.67	.12	0.36	.02
					20	.38	.58	.87	.92	.15	0.45	.03



Lizard Source - 35°C cage

Jar	Lizard No.	Sex	Weight (gms)	Date	Time (min.)	Blank start	Blank stop	Manometer start	Manometer stop	Manometer corrected	Total O <sub>2</sub> /hr	O <sub>2</sub> (cc/gm/hr)
6	40	♀	13.5	12/11/63	20	.59	.42	.75	.39	.19	0.57	.04
					20	.59	.52	.82	.73	.02	0.06	.004
					20	.66	.64	.80	.51	.27	0.81	.06
3	95	♀	12.8	12/13/63	20	.52	.23	.91	.48	.14	0.42	.03
					20	.50	.31	.89	.75	—	—	—
					20	.56	.42	.84	.72	—	—	—
					20	.43	.32	.90	.79	—	—	—
1	17	♂	7.4	12/14/63	20	.61	.47	.96	.79	.03	0.09	.01
					20	.60	.53	.92	.68	.17	0.51	.07
					20	.53	.43	.66	.47	.09	0.27	.04
3	80	♀	10.0	12/14/63	20	.61	.47	.95	.41	.40	1.20	.12
					20	.60	.53	.93	.79	.07	0.21	.02
					20	.53	.43	.79	.55	.14	0.42	.04
6	117	♂	11.6	12/14/63	20	.61	.47	.93	.51	.28	0.84	.07
					20	.60	.53	.83	.65	.11	0.33	.03
					20	.53	.43	.65	.47	.08	0.24	.02
2	89	♂	10.2	12/14/63	20	.61	.47	.93	.11	.68	2.04	.20
					20	.60	.53	.84	.20	.57	1.71	.17
					20	.53	.43	.90	.22	.58	1.74	.17
2	15	♂	8.2	12/16/63	20	.66	.55	.88	.37	.40	1.20	.15
					20	.53	.53	.85	.56	.29	0.87	.12
					20	.53	.58	.93	.79	.09	0.27	.03
5	201+3	♂	9.3	12/16/63	20	.66	.55	.99	.35	.53	1.59	.17
					20	.53	.53	.83	.42	.41	1.23	.13
					20	.53	.48	.82	.37	.40	1.20	.13
1	114	♀	6.4	12/17/63	20	.57	.47	.96	.85	.01	0.03	.004
					20	.47	.42	.85	.84	—	—	—
					20	.48	.40	.76	.61	.07	0.21	.03
5	56	♂	8.2	12/17/63	20	.57	.47	.95	.79	.06	0.18	.02
					20	.47	.42	.79	.78	—	—	—
					20	.48	.40	.86	.71	.07	0.21	.02





Lizard Source - Outdoor cage

15°C

Jar	Lizard No.	Sex	Weight (gms)	Date	Time (min.)	Blank start	Blank stop	Manometer start	Manometer stop	Manometer corrected	Total O <sub>2</sub> /hr.	O <sub>2</sub> (cc/gm/hr)
4	121	♂	13.1	12/11/63	20	.59	.42	.82	.64	.01	.03	.002
					20	.59	.52	.77	.68	.02	.06	.004
					20	.66	.64	.76	.58	.16	.48	.04
3	122	♂	16.3	12/11/63	7	.59	.45	.61	.06	.41	3.53	.22
					20	.59	.52	.76	.29	.40	1.20	.07
					18	.66	.47	.86	.01	.66	2.18	.13
					10	.42	.33	.62	.05	.48	2.88	.18
2	116	♀	22.3	12/13/63	20	.50	.31	.89	.37	.33	0.99	.04
					20	.56	.42	.90	.15	.61	1.83	.08
					20	.43	.32	.92	.48	.33	0.99	.04
1	208 100	♀	21.0	12/13/63	20	.52	.23	.93	.37	.27	0.81	.04
					18	.50	.34	.98	.08	.74	2.44	.12
					18	.56	.43	.84	.03	.68	2.24	.11
					20	.43	.32	.92	.38	.43	1.29	.06
4	69	♂	18.7	12/14/63	20	.60	.53	.91	.80	.02	0.06	.003
					10	.67	.57	.87	.56	.21	1.26	.07
5	106	♀	17.0	12/14/63	20	.61	.47	.95	.61	.20	0.60	.04
					6	.55	.53	.88	.70	.16	1.60	.09
					20	.53	.43	.68	.20	.38	1.14	.07
3	93	♂	13.7	12/16/63	20	.66	.55	.90	.73	.06	0.18	.01
					20	.53	.53	.69	.26	.43	1.29	.09
					20	.53	.48	.92	.77	.10	0.30	.02
4	49	♀	15.3	12/17/63	20	.57	.47	.88	.53	.25	0.75	.05
					20	.47	.42	.83	.51	.27	0.81	.05
					20	.48	.40	.65	.07	.50	1.50	.10
2	208	♀	20.0	12/18/63	20	.51	.45	.97	.23	.68	2.04	.10
					20	.55	.59	.93	.24	.73	2.19	.11
					15	.60	.59	.88	.23	.64	2.56	.13
					20	.55	.52	.90	.12	.75	2.25	.11



Lizard source — Outdoor cage

15°C

Jar	Lizard No.	Sex	Weight (gms)	Date	Time (min)	Blank		Manometer			Total O <sub>2</sub> /hr.	O <sub>2</sub> (cc/gm/hr)
						start	stop	start	stop	corrected		
4	88	♀	24.3	12/18/63	20	.55	.59	.89	.31	.62	1.86	.08
					20	.60	.56	.88	.28	.56	1.68	.07
					20	.55	.52	.87	.41	.43	1.29	.05
1	213	♂	13.5	12/19/63	20	.51	.36	.83	.45	.23	0.69	.05
					20	.62	.61	.91	.45	.45	1.35	.10
					20	.65	.72	.87	.47	.47	<del>1.4</del> 1.41	.10
4	63	♂	15.3	12/19/63	9	.65	.67	.65	.43	.24	1.60	.10
					10	.67	.72	.76	.22	.59	3.54	.23
3	123	♀	21.0	12/19/63	20	.51	.36	.85	.53	.17	0.51	.02
					20	.62	.61	.73	.44	.28	0.84	.04
					20	.65	.72	.82	.59	.30	0.90	.04
2	16	♂	16.5	12/20/63	20	.57	.46	.91	.41	.39	1.17	.07
					20	.45	.38	.88	.43	.38	1.14	.07
					20	.38	.58	.94	.97	.17	0.51	.03
5	72	♀	16.2	12/19/63	20	.51	.36	.90	.36	.39	1.17	.07
					20	.62	.61	.76	.44	.31	0.93	.06
					20	.65	.72	.81	.52	.34	1.02	.06
2	92	♀	12.7	12/19/63	20	.51	.36	.91	.02	.74	2.22	.17
					20	.62	.61	.86	.23	.62	1.86	.15
					20	.65	.72	.82	.43	.46	1.38	.11
4	203+1	♂	13.8	12/20/63	20	.57	.46	.82	.05	.66	1.98	.14
					20	.45	.38	.89	.23	.59	1.77	.13
					20	.38	.58	.92	.48	.64	1.92	.14



PHRYNOSOMA M'CALLI

Lizard Source - Field (caught 8/22/63)

Temperature - 25 °C

Jar	Lizard No.	Sex	Weight (gms.)	Date	Time (min.)	Blank start	Blank stop	Manometer start	Manometer stop	Manometer corrected	Total O <sub>2</sub> /hr	O <sub>2</sub> (cc/gm/hr)
1	120	♂	12.0	8/23/63	20	.48	.74	.91	.72	.45	1.35	.11
				"	30	.46	.68	.90	.79	.33	0.66	.05
				"	16	.65	.73	.89	.66	.31	1.16	.09
				"	15	.59	.63	.66	.61	.09	0.36	.03
2	122	♂	15.6	"	20	.48	.74	.85	.14	.97	2.91	.18
				"	30	.46	.68	.95	.30	.87	1.74	.11
				"	11	.65	.72	.78	.00	.85	4.63	.29
				"	10	.59	.61	.77	.04	.75	4.50	.28
3	124	♀	15.3	"	10	.68	.76	.86	.80	.14	0.84	.05
				"	30	.46	.68	.94	.66	.50	1.00	.06
				"	16	.65	.73	.82	.53	.37	1.39	.09
				"	15	.59	.63	.58	.45	.17	0.68	.04
4	121	♂	10.3	"	30	.46	.68	.90	.28	.84	1.68	.16
				"	<del>16</del>	<del>.65</del>	<del>.73</del>	<del>.67</del>	<del>.72</del>	<del>.03</del>	<del>0.11</del>	<del>.01</del>
				"	15	.59	.63	.60	.44	.20	0.80	.07
				"	—	—	—	—	—	—	—	—
5	125	♀	12.6	"	<del>8</del>	<del>.74</del>	<del>.80</del>	<del>.58</del>	<del>.03</del>	<del>.61</del>	<del>4.58</del>	<del>active .36</del>
				"	30	.46	.68	.85	.33	.74	1.48	.11
				"	16	.65	.73	.88	.64	.32	1.20	.09
				"	15	.59	.63	.67	.39	.32	1.28	.10
6	119	♀	14.4	"	10	.68	.76	.91	.90	.09	0.54	.03
				"	30	.46	.68	.89	.92	.19	0.38	.02
				"	16	.65	.73	.94	.80	.22	0.82	.05
				"	15	.59	.63	.85	.52	.37	1.48	.10
7	118	♀	18.3	"	20	.48	.74	.85	.53	.58	1.74	.09
				"	30	.46	.68	.80	.20	.82	1.64	.08
				"	16	.65	.73	.80	.48	.40	1.50	.08
				"	15	.59	.63	.82	.31	.55	2.20	.12
8	123	♀	20.0	"	20	.48	.74	.88	.47	.67	2.01	.10
				"	30	.46	.68	.83	.00	1.05	2.10	.10
(over)				"	16	.65	.73	.70	.04	.74	2.78	.13

(over) Barometer: 733 mm.



<u>Jar</u>	<u>Lizard</u>	<u>Sex</u>	<u>Weight</u>	<u>Date</u>	<u>Time</u>	<u>start</u>	<u>Blank</u> <u>stop</u>	<u>Manometer</u> <u>start</u>	<u>stop</u>	<u>corrected</u>	<u>Total</u> <u>O<sub>2</sub>/hr</u>	<u>O<sub>2</sub></u> <u>(cc/gm/hr)</u>
8	123	♀	20.0	8/23/63	15	.59	.63	.76	.16	.64	2.56	.12

Lizard Source - Field (Caught 8/18/63)

Temperature - 25°C

Jar	Lizard No.	Sex	Weight (gms.)	Date	Time (min.)	Blank start	Blank stop	Manometer start	Manometer stop	Manometer corrected	Total O <sub>2</sub> /hr.	O <sub>2</sub> (cc/gm/hr)
1	Juv.	♀	3.9	8/19/63	5	.50	.59	.85	.85	.09	1.08	.27
				"	5	.59	.68	.85	.87	.06	0.72	.18
				"	10	.63	.85	.77	.79	.20	1.20	.30
				"	10	.61	.62	.81	.83	—	—	—
2	Ad.	♂	12.7	"	5	.50	.59	.81	.77	.13	1.56	.12
				"	5	.59	.68	.77	.76	.09	1.08	.08
				"	10	.63	.85	.80	.78	.24	1.44	.11
				<del>"</del>	<del>10</del>	<del>.61</del>	<del>.62</del>	<del>.78</del>	<del>.77</del>	<del>.02</del>	<del>0.12</del>	<del>.01</del>
3	Ad.	♀	11.5	"	5	.50	.59	.81	.63	.27	3.24	.28
				"	5	.59	.68	.63	.48	.23	2.76	.24
				"	10	.63	.85	.88	.80	.30	1.80	.15
				"	10	.61	.62	.84	.62	.23	1.38	.12



PHRYNOSOMA M'CALLI

Lizard Source - Outdoor cage

Temperature - 25°C

Jar	Lizard No.	Sex	Weight (gms.)	Date	Time (min.)	Blank start	Blank stop	Manometer start	Manometer stop	Manometer corrected	Total O <sub>2</sub> /hr.	O <sub>2</sub> (cc/sm/hr)
1	101	♂	17.4	8/16/63	10	.50	.58	.91	.36	.63	3.78	.21
				"	10	.60	.75	.98	.24	.89	5.34	.30
				"	8	.46	.49	.91	.02	.92	6.90	.39
3	200+109	♀	15.0	8/16/63	10	.35	.48	.74	.15	.72	4.32	.28
				"	<del>5</del>	<del>.43</del>	<del>.50</del>	<del>.66</del>	<del>.02</del>	<del>.71</del>	<del>8.52</del>	<del>.56</del>
				"	10	.57	.70	.92	.34	.71	4.26	.28
6	103	♂	16.2	"	10	.35	.48	.78	.59	.32	1.92	.11
				"	10	.43	.52	.85	.42	.52	3.12	.19
				"	10	.57	.70	.87	.76	.24	1.44	.08
5	287	♀	14.8	"	10	.35	.48	.66	.12	.67	4.02	.27
				"	9	.43	.51	.68	.00	.76	5.07	.34
				"	9	.57	.68	.83	.02	.92	6.14	.41
5	86	♀	18.0	"	5	.50	.53	.90 (Active)	.04	.89	10.68	.59
				"	5	.60	.67	.92 (Active)	.19	.80	9.60	.53
				"	6	.46	.48	.90 (Active)	.02	.90	9.00	.50
1	97	♀	20.0	"	10	.35	.48	.54	.20	.47	2.82	.14
				"	8	.43	.51	.71	.01	.78	5.85	.29
				"	10	.57	.70	.91	.31	.73	4.38	.21
4	299	♂	14.3	"	<del>4</del>	<del>.50</del>	<del>.53</del>	<del>.79</del>	<del>.03</del>	<del>.79</del>	<del>11.85</del>	<del>.82</del>
				"	<del>5</del>	<del>.60</del>	<del>.67</del>	<del>.89</del>	<del>.09</del>	<del>.87</del>	<del>10.44</del>	<del>.73</del>
				"	8	.46	.49	.90	.22	.71	5.32	.37
2	110	♀	18.7	"	10	.50	.58	.90	.54	.44	2.64	.14
				"	10	.60	.75	.95	.60	.50	3.00	.16
				"	10	.46	.50	.91	.37	.58	3.48	.18
4	117	♂	16.4	"	10	.35	.48	.75	.10	.78	4.68	.28
				"	8	.43	.51	.64	.03	.69	5.18	.31
				"	10	.57	.70	.82	.16	.79	4.74	.28
3	105	♂	12.1	"	10	.50	.58	.76	.40	.44	2.64	.21
				"	10	.60	.75	1.00	.90	.25	1.50	.12
				"	10	.46	.50	.99	.39	.64	3.84	.30

OMIT

Barometer: 8/16/63 - 732 mm



PHRYNOSOMA M'CALLI

Lizard Source - Cold room

Temperature - 25°C

Jar	Lizard No.	sex	Weight (gms.)	Date	Time (min.)	Blank		Manometer			Total O <sub>2</sub> /hr	O <sub>2</sub> (cc/gm/hr)
						start	stop	start	stop	corrected		
1	103	♂	14.1	9/2/63	10	.44	.51	.85	.20	.72	4.32	.30
				"	10	.54	.61	.76	.03	.80	4.80	.34
				"	10	.65	.73	.79	.00	.87	5.22	.37
				"	10	.75	.83	.83	.16	.75	4.50	.31
2	105	♂	10.3	"	10	.44	.51	.82	.48	.41	2.46	.23
				"	10	.54	.61	.83	.27	.63	3.78	.36
				"	10	.65	.73	.82	.48	.42	2.52	.24
				"	10	.75	.83	.87	.18	.77	4.62	.44
3	110	♀	16.7	"	10	.44	.51	.80	.26	.61	3.66	.21
				"	10	.54	.61	.85	.22	.70	4.20	.25
				"	10	.65	.73	.82	.00	.90	5.40	.32
				"	10	.75	.83	.76	.42	.42	2.52	.15
4	97	♀	20.0	"	10	.44	.51	.70	.26	.51	3.01	.15
				"	10	.54	.61	.76	.05	.78	4.68	.23
				"	10	.65	.73	.78	.23	.63	3.78	.18
				"	10	.75	.83	.76	.16	.68	4.08	.20
5	<del>200-107</del>	<del>♀</del>	12.6	"	10	.44	.51	.84	.00	.91	5.46	.43
	299	♂		"	8	.54	.61	.71	.02	.76	5.70	.45
				"	<del>6</del>	<del>.65</del>	<del>.71</del>	<del>.74</del>	<del>.03</del>	<del>.77</del>	<del>7.70</del>	<del>.61</del>
				"	8	.75	.80	.76	.05	.76	5.70	.45

Barometer: 732 mm.





Lizard Source — Cold room

Temperature — 25°C

Jar	Lizard No.	Sex	Weight (gms)	Date	Time (min)	Blank		Manometer			Total O <sub>2</sub> /hr	O <sub>2</sub> (cc/gm/hr)
						start	stop	start	stop	corrected		
1	117	♂	14.1	9/3/63	10	.60	.75	.89	.26	.78	4.68	.33
				"	10	.77	.85	.77	.11	.74	4.44	.31
				"	6	.90	.99	.79	.37	.51	5.10	.36
				<del>"</del>	<del>6</del>	<del>.57</del>	<del>.63</del>	<del>.80</del>	<del>.02</del>	<del>.84</del>	<del>8.40</del>	<del>.59</del>
2	287	♀	13.5	"	10	.60	.75	.92	.49	.58	3.48	.25
				"	10	.77	.85	.91	.21	.78	4.68	.34
				"	6	.90	.99	.78	.36	.51	5.10	.37
				"	10	.57	.62	.70	.00	.75	4.50	.33
3	200+109	♀	13.2	"	10	.60	.75	.72	.01	.86	5.16	.39
				"	10	.77	.85	.77	.04	.81	4.86	.36
				"	6	.90	.99	.83	.46	.46	4.60	.34
				"	10	.57	.62	.85	.13	.77	4.62	.35
4	86	♀	16.2	"	10	.60	.75	.84	.71	.28	1.68	.10
				"	10	.77	.85	.74	.68	.14	0.84	.05
				"	6	.90	.99	.74	.70	.13	1.30	.08
				"	10	.57	.62	.76	.63	.18	1.08	.06
5	101	♂	15.3	"	10	.60	.75	.91	.57	.49	2.94	.19
				"	10	.77	.85	.87	.21	.74	4.44	.29
				"	6	.90	.99	.95	.85	.19	1.90	.12
				"	10	.57	.62	.77	.29	.53	3.18	.20

Barometer: 732 mm.



Lizard source — 15°C cage (dark)

25°C

Jar	Lizard No.	Sex	Weight (gms)	Date	Time (min)	Blank		Manometer			Total O <sub>2</sub> /hr	O <sub>2</sub> (cc/gm/hr)
						start	stop	start	stop	corrected		
2	85	♀	20.1	12/11/63	15	.66	.63	.75	.09	.63	2.52	.12
					10	.61	.58	.83	.35	.45	2.70	.13
					10	.58	.59	.80	.32	.49	2.94	.15
6	45	♂	9.4	12/13/63	10	.56	.56	.79	.70	.09	0.54	.06
					10	.55	.50	.70	.59	.06	0.36	.04
					10	.49	.43	.77	.60	.11	0.66	.07
4	86	♀	19.8	12/16/63	20	.62	.75	.89	.88	.14	0.42	.02
					20	.76	.85	.87	.66	.30	0.90	.05
					20	.59	.58	.63	.35	.27	0.81	.04
3	103+20+30	♂	17.3	12/17/63	10	.60	.70	.86	.61	.35	2.10	.12
					10	.50	.64	.88	.84	.18	1.08	.06
					10	.65	.68	.81	.72	.12	0.72	.04
8	200+109	♀	14.6	12/18/63	15	.55	.56	.81	.30	.52	2.08	.14
					15	.55	.55	.59	.27	.32	1.28	.09
					6	.56	.55	.67	.11	.55	5.50	.38



Lizard source — 15°C cage (7 hrs. light)

25°C

Jar	Lizard No.	Sex	Weight (gms)	Date	Time (min)	Blank		Manometer			Total O <sub>2</sub> /hr	O <sub>2</sub> (cc/gm/hr)
						start	stop	start	stop	corrected		
1	81	♂	16.3	12/11/63	15	.66	.63	.95	.40	.52	2.08	.13
					10	.61	.58	.91	.54	.34	2.04	.12
					10	.58	.59	.95	.66	.30	1.80	.11
4	299	♂	14.0	12/13/63	10	.56	.56	.90	.69	.21	1.26	.09
					10	.55	.50	.67	.42	.20	1.20	.08
					10	.49	.43	.86	.60	.20	1.20	.08
6	67	♀	17.0	12/16/63	20	.62	.75	.85	.83	.15	0.45	.03
					20	.76	.85	.78	.47	.40	1.20	.07
					20	.59	.58	.76	.43	.32	0.96	.06
6	54	♂	13.5	12/17/63	10	.60	.70	.70	.47	.33	1.98	.15
					10	.50	.64	.68	.34	.48	2.88	.21
					10	.65	.68	.83	.39	.47	2.82	.21
5	71	♂	20.3	12/18/63	15	.55	.56	.90	.73	.18	0.72	.04
					15	.55	.55	.94	.68	.26	1.04	.05
					10	.56	.53	.96	.63	.30	1.80	.09
3	41	♀	17.1	12/20/63	10	.62	.75	.89	.44	.58	3.48	.20
					10	.57	.73	.87	.54	.49	2.94	.17
					10	.75	.91	.80	.38	.58	3.48	.20
					10	.44	.50	.89	.58	.37	2.22	.13





## Lizard source — 25°C cage

25°C

Jar	Lizard No.	Sex	Weight (gms)	Date	Time (min)	Blank		Manometer			Total O <sub>2</sub> /hr	O <sub>2</sub> (cc/gm/hr)
						start	stop	start	stop	corrected		
5	297	♂	17.8	12/11/63	8	.66	.64	.70	.11	.57	4.28	.24
					10	.61	.58	.89	.28	.58	3.48	.20
					10	.58	.59	.92	.30	.63	3.78	.21
5	97	♀	16.6	12/13/63	10	.56	.56	.86	.61	.25	1.50	.09
					10	.55	.50	.78	.26	.47	2.82	.17
					10	.49	.43	.84	.24	.54	3.24	.20
1	39	♀	17.6	12/16/63	20	.62	.75	.90	.86	.17	0.51	.03
					20	.76	.85	.82	.58	.33	0.99	.06
					20	.59	.58	.62	.32	.29	0.87	.05
2	102	♀	20.0	12/17/63	10	.60	.70	.74	.00	.84	5.04	.25
					7	.50	.62	.85	.05	.92	7.91	.40
					10	.65	.68	.90	.66	.27	1.62	.08
3	37	♀	18.5	12/18/63	9	.55	.59	.69	.00	.73	4.87	.26
					12	.55	.54	.84	.11	.72	3.60	.19
					6	.56	.55	.84	.33	.50	5.00	.27
1	108	♂	10.4	12/18/63	15	.55	.56	.79	.70	.10	0.40	.04
					15	.55	.55	.67	.61	.06	0.24	.02
					10	.56	.53	.61	.57	.01	0.06	.01
7	87	♂	13.3	12/18/63	15	.55	.56	.90	.46	.45	1.80	.14
					15	.55	.55	.81	.43	.38	1.52	.11
					10	.56	.53	.78	.41	.34	2.04	.15
6	64	♀	19.4	12/18/63	15	.55	.56	.85	.30	.56	2.24	.12
					15	.55	.55	.95	.85	.10	0.40	.02
					10	.56	.53	.87	.71	.13	0.78	.04
8	29	♀	12.5	12/19/63	20	.59	.77	.95	—	—	—	—
					15	.59	.64	.74	.24	.55	2.20	.18
					15	.67	.69	.80	.48	.34	1.36	.11
6	23	♀	17.5	12/19/63	20	.59	.77	.88	.58	.48	1.44	.08
					15	.59	.64	.74	.06	.63	2.52	.14
					15	.67	.69	.72	.45	.29	1.16	.07



Lizard source - 25°C cage

25°C

Jar	Lizard No.	Sex	Weight (gms)	Date	Time (min)	Blank		Manometer			Total O <sub>2</sub> /hr	O <sub>2</sub> (cc/gm/hr)
						start	stop	start	stop	corrected		
1	292	♂	14.3	12/20/63	10	.62	.75	.91	.90	.14	0.84	.06
					10	.57	.73	.91	.94	.13	0.78	.05
					10	.75	.91	.94	.96	.14	0.84	.06
					10	.44	.50	.96	.97	.05	0.30	.02



Lizard source — 35°C cage

25°C

Jar	Lizard No.	Sex	Weight (gms)	Date	Time (min)	Blank		Manometer		corrected	Total O <sub>2</sub> /hr	O <sub>2</sub> (cc/gm/hr)
						start	stop	start	stop			
6	40	♀	13.5	12/11/63	15 (OK)	.66	.63	.75	.08	.64	2.56	.19
					10	.61	.58	.88	.68	.17	1.08	.08
					10	.58	.59	.64	.55	.10	0.60	.04
3	95	♀	12.8	12/13/63	10	.56	.56	.88	.73	.15	0.90	.07
					10	.55	.50	.72	.48	.19	1.14	.09
					10	.49	.43	.88	.65	.17	1.02	.08
1	17	♂	7.4	12/14/63	10	.59	.66	.93	.90	.10	0.60	.08
					10	.63	.66	.93	.88	.08	0.48	.06
					10	.67	.66	.90	.81	.08	0.48	.06
3	80	♀	10.0	12/14/63	10	.59	.66	.94	.88	.13	0.78	.08
					10	.63	.66	.92	.78	.17	1.02	.10
					10	.67	.66	.79	.45	.33	1.98	.20
6	117	♂	11.6	12/14/63	10	.59	.66	.91	.33	.65	3.90	.34
					10	.63	.66	.70	.08	.65	3.90	.34
					10	.67	.66	.81	.01	.79	4.74	.41
2	89	♂	10.2	12/14/63	10	.59	.66	.83	.46	.44	2.64	.26
					10	.63	.66	.80	.38	.45	2.70	.26
					10	.67	.66	.84	.33	.50	3.00	.29
2	15	♂	8.2	12/16/63	20	.62	.75	.98	1.03	.18	0.54	.06
					20	.76	.85	.88	.82	.15	0.45	.05
					20	.59	.58	.83	.71	.11	0.33	.04
5	201+3	♂	9.3	12/16/63	20	.62	.75	.82	.27	.68	2.04	.22
					20	.76	.85	.83	.16	.76	2.28	.24
					20	.59	.58	.85	.12	.72	2.16	.23
1	114	♀	6.4	12/17/63	10	.60	.70	.83	.81	.12	0.72	.11
					10	.50	.64	.93	.93	.14	0.84	.13
					10	.65	.68	.92	.88	.07	0.42	.06
5	56	♂	8.2	12/17/63	10	.60	.70	.82	.51	.41	2.46	.30
					10	.50	.64	.84	.65	.33	1.98	.24
					10	.65	.68	.77	.47	.33	1.98	.24



## Lizard source — Outdoor cage

25°C

Jar	Lizard No.	Sex	Weight (gms)	Date	Time (min)	Blank		Manometer			Total O <sub>2</sub> /hr	O <sub>2</sub> (cc/gm/hr)
						start	stop	start	stop	corrected		
4	121	♂	13.1	12/11/63	8	.66	.64	.75	.06	.67	5.02	.38
					8	.61	.59	.79	.05	.72	5.40	.41
					10	.58	.59	.89	.78	.12	0.72	.05
3	122	♂	16.3	12/11/63	15	.66	.63	.85	.59	.23	0.92	.06
					10	.61	.58	.82	.54	.25	1.50	.09
					10	.58	.59	.91	.67	.25	1.50	.09
2	116	♀	22.3	12/13/63	10	.56	.56	.95	.55	.40	2.40	.11
					10	.55	.50	.84	.34	.45	2.70	.12
					10	.49	.43	.85	.50	.29	1.74	.08
1	208+100	♀	21.0	12/13/63	10	.56	.56	.92	.73	.19	1.14	.05
					10	.55	.50	.72	.50	.17	1.02	.05
					10	.49	.43	.92	.69	.17	1.02	.05
4	69	♂	18.7	12/14/63	10	.59	.66	.90	.86	.11	0.66	.04
					10	.63	.66	.85	.75	.13	0.78	.04
					10	.67	.66	.73	.58	.14	0.84	.04
5	106	♀	17.0	12/14/63	10	.59	.66	.91	.95	.03	0.18	.01
					10	.63	.66	.76	.31	.48	2.88	.17
					10	.67	.66	—	—	—	—	—
3	93	♂	13.7	12/16/63	10	.62	.71	.84	.20	.73	4.38	.32
					8	.72	.75	.79	.03	.79	5.92	.43
					9	.76	.81	.87	.03	.89	5.94	.43
					8	.81	.84	.86	.12	.77	5.78	.42
4	49	♀	15.3	12/17/63	10	.60	.70	.81	.53	.38	2.28	.15
					10	.50	.64	.80	.27	.67	4.02	.26
					10	.65	.68	.80	.34	.49	2.94	.19
2	208	♀	20.0	12/18/63	10	.55	.58	.82	.08	.77	4.62	.23
					3	.56	.56	.80	.12	.68	13.60	—
					6	.55	.55	.74	.06	.68	6.80	.34
1	213	♂	13.5	12/19/63	20	.59	.77	.80	.16	.82	2.46	.18
					12	.59	.63	.77	.06	.75	3.75	.28
					10	.67	.69	.81	.12	.71	4.26	.32





Lizard source — Outdoor cage

25°C

Jar	Lizard No.	Sex	Weight (gms)	Date	Time (min)	Blank		Manometer			Total O <sub>2</sub> /hr	O <sub>2</sub> (cc/gm/hr)
						start	stop	start	stop	corrected		
4	88	♀	24.3	12/18/63	15	.55	.56	.79	.27	.53	2.12	.09
					15	.55	.55	.72	.02	.70	2.80	.12
					10	.56	.53	.79	.20	.56	3.36	.14
3	123	♀	21.0	12/19/63	20	.59	.77	.61	.12	.67	2.01	.10
					14	.59	.64	.73	.06	.72	3.02	.14
					8	.67	.69	.79	.30	.51	3.82	.18
4	63	♂	15.3	12/19/63	20	.59	.77	.96	.54	.60	1.80	.12
					15	.59	.64	.82	.12	.75	3.00	.20
					12	.67	.69	.74	.05	.71	3.55	.23
5	72	♀	16.2	12/19/63	20	.59	.77	.81	.69	.30	0.90	.06
					15	.59	.64	.68	.67	.06	0.24	.01
					15	.67	.69	.75	.47	.30	1.20	.07
2	92	♀	12.7	12/19/63	20	.59	.77	.82	.90	.10	0.30	.02
					15	.59	.64	.89	.43	.51	2.04	.16
					10	.67	.69	.77	.09	.70	4.20	.33
2	16	♂	16.5	12/20/63	10	.62	.75	.90	.93	.10	0.60	.04
					10	.57	.73	.90	.97	.09	0.54	.03
					10	.75	.91	.86	.94	.08	0.48	.03
4	203+1	♂	13.8	12/20/63	10	.62	.75	.80	.42	.51	3.06	.22
					10	.57	.73	.79	.24	.71	4.26	.31
					10	.75	.91	.85	.38	.63	3.78	.27
					10	.44	.50	.81	.22	.65	3.90	.28



PHRYNOSOMA M'CALLI

Lizard Source - Field (caught 8/22/63)

Temperature - 35°C

Jar	Lizard No.	sex	Weight (gms.)	Date	Time (min.)	Blank start	Blank stop	Manometer start	Manometer stop	Manometer corrected	Total O <sub>2</sub> /hr.	O <sub>2</sub> (cc/gm/hr)
1	120	♂	12.0	8/23/63	6	.48	.49	.76	.56	.21	2.10	.17
				"	5	.51	.49	.52	.54	—	—	—
				"	5	.49	.46	.80	.08	.69	8.28	.69
				"	5	.45	.43	.76	.40	.34	4.08	.34
2	122	♂	15.6	"	6	.48	.49	.91	.68	.24	2.40	.15
				"	5	.51	.49	.62	.40	.20	2.40	.15
				"	5	.49	.46	.83	.36	.44	5.28	.33
				"	5	.45	.43	.71	.03	.66	7.92	.50
3	124	♀	15.3	"	<del>3.5</del>	<del>.51</del>	<del>.50</del>	<del>.97</del>	<del>.00</del>	<del>.96</del>	<del>16.45</del>	<del>1.07</del>
				"	5	.49	.46	.76	.02	.71	8.52	.55
				"	5	.45	.43	.95	.94	—	—	—
4	121	♂	10.3	"	6	.48	.49	.77	.65	.13	1.30	.12
				"	5	.51	.49	.59	.45	.12	1.44	.13
				"	5	.49	.46	.41	.25	.13	1.56	.15
				"	5	.45	.43	.70	.50	.18	2.16	.20
5	125	♀	12.6	"	6	.48	.49	.82	.47	.36	3.60	.28
				"	5	.51	.49	.42	.23	.17	2.04	.16
				"	5	.49	.46	.78	.47	.28	3.36	.26
				"	5	.45	.43	.80	.65	.13	1.56	.12
6	119	♀	14.4	"	6	.48	.49	.78	.69	.10	1.00	.06
				"	5	.51	.49	.61	.59	—	—	—
				"	5	.49	.46	.41	.27	.11	1.32	.09
				"	5	.45	.43	.71	.55	.14	1.68	.11
7	118	♀	18.3	"	6	.48	.49	.92	.65	.28	2.80	.15
				"	5	.51	.49	.57	.38	.17	2.04	.11
				"	5	.49	.46	.85	.66	.16	1.92	.10
				"	5	.45	.43	.52	.15	.35	4.20	.22
8	123	♀	20.0	"	4	.51	.49	.85	.26	.57	8.55	.42
				"	5	.51	.49	.82	.72	.08	0.96	.04
				"	5	.49	.46	.97	.50	.44	5.28	.26

(over) Barometer: 733 mm.

<u>Sar</u>	<u>Lizard</u>	<u>Sex</u>	<u>Weight</u>	<u>Date</u>	<u>Time</u>	<u>Blank</u>		<u>Manometer</u>			<u>Total</u>	<u>O<sup>2</sup>/hr</u>	<u>O<sup>2</sup></u>
						<u>start</u>	<u>stop</u>	<u>start</u>	<u>stop</u>	<u>corrected</u>			<u>(cc/gm/hr)</u>
8	123	♀	20.0	8/23/63	5	.45	.43	.69	.12	.55	6.60		.33

PHRYNOSOMA M'CALLI

Lizard Source - Outdoor cage

Temperature - 35°C

Jar	Lizard No.	Sex	Weight (gms.)	Date	Time (min.)	Blank		Manometer			Total O <sub>2</sub> /hr.	O <sub>2</sub> (cc/gm/hr)
						start	stop	start	stop	corrected		
1	86	♀	18.0	8/19/63	10	.55	.37	.92	.29	.45	2.70	.15
3	117	♂	16.4	"	10	.55	.37	.79	.26	.35	2.10	.12
4	97	♀	20.0	"	10	.55	.37	.91	.53	.20	1.20	.06
5	110	♀	18.7	"	10	.55	.37	.89	.23	.48	2.88	.15
1	103	♂	16.2	"	5	.39	.38	.84	.10	.73	8.76	.54
2	105	♂	12.1	"	5	.39	.38	.89	.72	.16	1.92	.15
3	299	♂	14.3	"	5	.39	.38	.76	.02	.73	8.76	.61
4	101	♂	17.4	"	5	.39	.38	.84	.60	.23	2.76	.15
5	287	♀	14.8	"	3	.39	.37	.67	.01	.64	12.80	.86

Field animals, caught 8/18/63

1	Juv.	♀	3.9	8/19/63	10	.60	.62	.84	.12	.74	4.44	1.13
				"	5	.64	.68	.86	.40	.50	6.00	1.53
				"	10	.70	.79	.86	.63	.32	1.92	.49
				"	5	.79	.83	.94	.93	.05	0.60	.15
2	Ad.	♂	12.7	"	<del>10</del>	<del>.60</del>	<del>.62</del>	<del>.72</del>	<del>.62</del>	<del>.12</del>	<del>0.72</del>	<del>.05</del>
				"	10	.70	.79	.90	.40	.59	3.54	.27
				"	5	.79	.83	.75	.04	.75	9.00	.70
				"	5	.84	.85	.79	.16	.64	7.68	.60
3	Ad.	♀	11.5	"	5	.84	.85	.87	.46	.42	5.04	.43
				"	<del>5</del>	<del>.64</del>	<del>.68</del>	<del>.89</del>	<del>.08</del>	<del>.85</del>	<del>10.20</del>	<del>.88</del>
				"	8	.70	.74	.94	.04	.94	7.05	.61
				"	5	.79	.83	.75	.44	.35	4.20	.36
1	Juv.	♀	3.9	"	5	.84	.85	.97	.89	.09	1.08	.27

Barometer: 8/19/63 - 732 mm.



Lizard Source — Outdoor cage

Temperature — 35 °C

Jar	Lizard No.	Sex	Weight (gms.)	Date	Time (min.)	Blank		Manometer			Total O <sub>2</sub> /hr.	O <sub>2</sub> (cc/gm/hr)
						start	stop	start	stop	corrected		
	101	♂	17.4	8/19/63	5	.40	.33	.87	.68	.12	1.44	.08
				"	5	.35	.35	.66	.36	.30	3.60	.20
				"	5	.37	.40	.79	.64	.18	2.16	.12
2	200+109	♀	15.0	"	5	.33	.36	.89	.76	.16	1.92	.12
				"	10	.38	.60	.91	.77	.36	2.16	.14
				"	10	.55	.37	.95	.40	.37	2.22	.14
	103	♂	16.2	"	5	.40	.33	.85	.23	.55	6.60	.40
				"	5	.35	.35	.77	.07	.70	8.40	.51
				"	5	.37	.40	.74	.50	.27	3.24	.20
	287	♀	14.8	"	4	.40	.35	.75	.08	.62	9.30	.62
				"	5	.35	.35	.82	.63	.19	2.28	.15
				"	4	.37	.39	.87	.12	.77	11.55	.78
1	86	♀	18.0	"	5	.27	.30	.97	.89	.11	1.32	.07
				"	5	.33	.36	.93	.85	.11	1.32	.07
				"	10	.38	.60	.86	.63	.45	2.70	.15
4	97	♀	20.0	"	5	.27	.30	.83	.18	.68	8.16	.40
				"	5	.33	.36	.94	.64	.33	3.96	.19
				"	10	.38	.60	.83	.46	.59	3.54	.17
	299	♂	14.3	"	4	.40	.35	.68	.03	.60	9.00	.62
				"	5	.35	.35	.82	.62	.20	2.40	.16
				"	5	.37	.40	.76	.10	.69	8.28	.57
5	110	♀	18.7	"	4	.27	.30	.61	.00	.64	9.60	.51
				"	5	.33	.36	.91	.53	.41	4.92	.26
				"	10	.38	.60	.92	.65	.49	2.94	.15
3	117	♂	16.4	"	5	.27	.30	.90	.00	.93	11.16	.68
				"	5	.33	.36	.93	.65	.31	3.72	.22
				"	10	.38	.60	.97	.73	.46	2.76	.16
	105	♂	12.1	"	5	.40	.33	.94	.76	.11	1.32	.10
				"	5	.35	.35	.74	.53	.21	2.52	.20
				"	5	.37	.40	.81	.63	.21	2.52	.20

Barometer: 734 mm. (8/19/63)





Lizard Source - Cold room

Temperature - 35°C

Jar	Lizard No.	Sex	Weight (gms.)	Date	Time (min.)	Blank		Manometer			Total O <sub>2</sub> /hr	O <sub>2</sub> (cc/gm/hr)
						start	stop	start	stop	corrected		
1	103	♂	14.1	9/2/63	5	.47	.48	.93	.46	.48	5.76	.40
				"	5	.48	.49	.83	.51	.33	3.96	.28
				"	5	.49	.48	.93	.74	.18	2.16	.15
				"	5	.48	.49	.70	.05	.66	7.92	.56
2	105	♂	10.3	"	5	.47	.48	.88	.66	.23	2.76	.26
				"	5	.48	.49	.58	.31	.28	3.36	.32
				"	5	.49	.48	.85	.63	.21	2.54	.24
				"	5	.48	.49	.60	.40	.21	2.54	.24
3	110	♀	16.7	"	5	.47	.48	.62	.22	.41	4.92	.29
				"	5	.48	.49	.80	.53	.28	3.36	.20
				"	5	.49	.48	.84	.70	.13	1.56	.09
				"	5	.48	.49	.67	.45	.23	2.76	.16
4	97	♀	20.0	"	5	.47	.48	.77	.65	.13	1.56	.07
				"	5	.48	.49	.59	.39	.21	2.54	.12
				"	5	.49	.48	.77	.51	.25	3.00	.15
				"	5	.48	.49	.47	.39	.09	1.08	.05
5	<del>100-109</del> 299	<del>♀</del> ♂	12.6	"	5	.47	.48	.52	.05	.48	5.76	.45
				"	5	.48	.49	.72	.00	.73	8.76	.69
				"	4	.49	.48	.70	.08	.61	9.15	.72
				"	—	—	—	—	—	—	—	—

Barometer: 731 mm.



Lizard Source — Cold room

Temperature — 35°C

Jar	Lizard No.	Sex	Weight (gms)	Date	Time (min)	Blank		Manometer			Total O <sup>2</sup> /hr.	O <sup>2</sup> (cc/gm/hr)
						start	stop	start	stop	corrected		
1	117	♂	14.1	9/3/63	5	.50	.54	.63	.15	.52	6.24	.44
				"	5	.55	.58	.93	.25	.71	8.52	.60
				"	5	.56	.56	.77	.04	.73	8.76	.62
				"	5	.60	.64	.97	.30	.71	8.52	.60
2	287	♀	13.5	"	5	.50	.54	.80	.31	.53	6.36	.47
				"	5	.55	.58	.83	.18	.68	8.16	.60
				"	5	.56	.56	.80	.15	.65	7.80	.57
				"	5	.60	.64	.81	.10	.75	9.00	.66
3	200+109	♀	13.2	"	5	.50	.54	.86	.68	.22	2.64	.20
				"	5	.55	.58	.62	.35	.30	3.60	.27
				"	5	.56	.56	.87	.53	.34	4.08	.30
				"	5	.60	.64	.50	.36	.18	2.16	.16
4	86	♀	16.2	"	5	.50	.54	.81	.75	.10	1.20	.07
				"	5	.55	.58	.76	.70	.09	1.08	.06
				"	5	.56	.56	.67	.63	.04	0.48	.02
				"	5	.60	.64	.63	.59	.08	0.96	.05
5	101	♂	15.3	"	5	.50	.54	.83	.77	.10	1.20	.07
				"	5	.55	.58	.74	.56	.21	2.52	.16
				"	5	.56	.56	.52	.36	.16	1.92	.12
				"	5	.60	.64	.65	.37	.32	3.84	.25

Barometer: 732 mm.



Lizard source - 15°C cage (dark)

35°C

Ser	Lizard No.	Sex	Weight (gms)	Date	Time (min)	Blank		Manometer			Total O <sub>2</sub> /hr	O <sub>2</sub> (cc/gm/hr)
						start	stop	start	stop	corrected		
2	85	♀	20.1	12/11/63	5	.56	.56	.82	.60	.22	2.64	.13
					5	.56	.57	.58	.32	.27	3.24	.16
					5	.54	.50	.75	.47	.24	2.88	.14
					5	.49	.44	.89	.60	.24	2.88	.14
6	45	♂	9.4	12/13/63	10	.54	.43	.97	.67	.19	1.14	.12
					10	.41	.36	.95	.75	.15	0.90	.10
					10	.37	.30	.90	.68	.15	0.90	.10
4	86	♀	19.8	12/16/63	10	.36	.34	.74	.42	.30	1.80	.09
					10	.36	.36	.84	.48	.36	2.16	.11
					10	.36	.30	.83	.45	.32	1.92	.10
3	103+20+30	♂	17.3	12/17/63	10	.43	.51	.76	.55	.29	1.74	.10
					10	.51	.52	.54	.22	.33	1.98	.11
					10	.52	.53	.80	.27	.54	3.24	.19
8	200+109	♀	14.6	12/18/63	10	.50	.52	.74	.39	.37	2.22	.15
					10	.48	.48	.64	.32	.32	1.92	.13
					10	.46	.46	.75	.42	.33	1.98	.14



Lizard source - 15°C cage (7 hrs. light)

35°C

Jar	Lizard No.	Sex	Weight (gms)	Date	Time (min)	Blank		Manometer			Total O <sub>2</sub>	
						start	stop	start	stop	corrected	O <sub>2</sub> /hr	(cc/gm/hr)
1	81	♂	16.3	12/11/63	5	.56	.56	.82	.72	.10	1.20	.07
					5	.56	.57	.58	.29	.30	3.60	.22
					5	.54	.50	.82	.52	.26	3.12	.19
					5	.49	.44	.40	.29	.06	0.72	.04
4	299	♂	14.0	12/13/63	10	.54	.43	.84	.48	.25	1.50	.11
					10	.41	.36	.94	.51	.38	2.28	.16
					10	.37	.30	.86	.47	.32	1.92	.14
6	67	♀	17.0	12/16/63	10	.36	.34	.72	.41	.29	1.74	.10
					10	.36	.36	.82	.44	.38	2.28	.13
					10	.36	.30	.81	.44	.31	1.86	.11
6	54	♂	13.5	12/17/63	10	.43	.51	.79	.57	.30	1.80	.13
					10	.51	.52	.77	.49	.29	1.74	.13
					10	.52	.53	.78	.69	.10	0.60	.04
5	71	♂	20.3	12/18/63	10	.50	.52	.81	.04	.79	4.74	.23
					10	.48	.48	.92	.52	.40	2.40	.12
					10	.46	.46	.75	.24	.51	3.06	.15
3	41	♀	17.1	12/20/63	10	.55	.49	.80	.41	.33	1.98	.12
					10	.49	.50	.82	.45	.38	2.28	.13
					10	.48	.58	.81	.55	.36	2.16	.13





Lizard source - 25°C cage

35°C

Jar	Lizard No.	sex	Weight (gms)	Date	Time (min)	Blank		Manometer			Total O <sub>2</sub> /hr	O <sub>2</sub> (cc/gm/hr)
						start	stop	start	stop	corrected		
5	297	♂	17.8	12/11/63	5	.56	.56	.86	.67	.19	2.28	.13
					5	.56	.57	.64	.53	.12	1.44	.08
					5	.54	.50	.88	.63	.21	2.52	.14
					5	.49	.44	.59	.43	.11	1.32	.07
5	97	♀	16.6	12/13/63	10	.54	.43	.98	.58	.29	1.74	.10
					10	.41	.36	.89	.62	.22	1.32	.08
					10	.37	.30	.92	.57	.28	1.68	.10
1	39	♀	17.6	12/16/63	10	.36	.34	.85	.59	.24	1.44	.08
					10	.36	.36	.86	.41	.45	2.70	.15
					10	.36	.30	.84	.32	.46	2.76	.16
2	102	♀	20.0	12/17/63	10	.43	.51	.81	.69	.20	1.20	.06
					6	.51	.52	.67	.11	.57	5.70	.28
					6	.52	.53	.73	.25	.49	4.90	.25
3	37	♀	18.5	12/18/63	10	.50	.52	.89	.03	.88	5.28	.28
					10	.48	.48	.74	.17	.57	3.42	.18
					10	.46	.46	.84	.38	.46	2.76	.15
1	108	♂	10.4	12/18/63	10	.50	.52	.84	.57	.29	1.74	.17
					10	.48	.48	.77	.58	.19	1.14	.11
					10	.46	.46	.84	.57	.29	1.74	.17
7	87	♂	13.3	12/18/63	10	.50	.52	.86	.66	.22	1.32	.10
					10	.48	.48	.57	.39	.18	1.08	.08
					10	.46	.46	.79	.54	.25	1.50	.11
6	64	♀	19.4	12/18/63	10	.50	.52	.89	.56	.35	2.10	.11
					10	.48	.48	.57	.31	.20	1.20	.06
					10	.46	.46	.77	.48	.29	1.74	.09
8	29	♀	12.5	12/19/63	10	.58	.59	.70	.59	.12	0.72	.06
					10	.60	.62	.56	.39	.19	1.14	.09
					10	.57	.54	.77	.47	.27	1.62	.13
6	23	♀	17.5	12/19/63	7	.58	.62	.58	.00	.62	5.27	.30
					8	.60	.62	.88	.13	.77	5.78	.33
					5	.57	.60	.67	.18	.52	6.24	.36



Lizard source - 25°C cage

35°C

Jar	Lizard No.	Sex	Weight (gms)	Date	Time (min)	<u>Blank</u>		<u>Manometer</u>			Total O <sub>2</sub> /hr	O <sub>2</sub> (cc/gm/hr)
						start	stop	start	stop	corrected		
1	292	♂	14.3	12/20/63	10	.55	.49	.98	.10	.82	4.92	.34
					8	.49	.52	.85	.00	.88	6.60	.46
					8	.48	.58	.94	.16	.88	6.60	.46



## Lizard source—35°C cage

35°C

Jar	Lizard No.	Sex	Weight (gms)	Date	Time (min)	Blank		Manometer			Total O <sub>2</sub> /hr (cc/gm/hr)	O <sub>2</sub>
						start	stop	start	stop	corrected		
6	40	♀	13.5	12/11/63	5	.56	.56	.84	.80	.04	0.36	.03
					5	.56	.57	.78	.73	.06	0.72	.05
					5	.54	.50	.72	.70	—	—	—
					5	.49	.44	.69	.66	—	—	—
3	95	♀	12.8	12/13/63	10	.54	.43	.74	.26	.37	2.22	.17
					10	.41	.36	.83	.53	.25	1.50	.12
					10	.37	.30	.90	.58	.25	1.50	.12
1	17	♂	7.4	12/14/63	10	.57	.57	.96	.84	.12	0.72	.10
					10	.56	.54	.79	.61	.16	0.96	.13
					10	.54	.49	.58	.37	.19	1.14	.15
3	80	♀	10.0	12/14/63	10	.57	.57	.84	.53	.31	1.86	.19
					10	.56	.54	.83	.31	.50	3.00	.30
					10	.54	.49	.91	.59	.27	1.62	.16
6	117	♂	11.6	12/14/63	8	.57	.57	.85	.00	.85	6.38	.55
					8	.56	.53	.90	.00	.87	6.52	.56
					8	.54	.51	.87	.03	.81	6.08	.52
2	89	♂	10.2	12/14/63	10	.57	.57	.83	.22	.61	3.66	.36
					10	.56	.54	.86	.51	.33	1.98	.19
					10	.54	.49	.90	.28	.57	3.42	.34
2	15	♂	8.2	12/16/63	10	.36	.34	.72	.38	.32	1.92	.23
					10	.36	.36	.85	.20	.65	3.90	.48
					5	.32	.29	.93	.30	.60	7.20	.88
5	201+3	♂	9.3	12/16/63	10	.36	.34	.91	.04	.85	5.10	.58
					10	.36	.36	.90	.02	.88	5.28	.57
					8	.36	.31	.85	.03	.77	5.78	.62
1	114	♀	6.4	12/17/63	10	.43	.51	.91	.75	.24	1.44	.22
					10	.51	.52	.72	.67	.06	0.36	.06
					10	.52	.53	.66	.26	.41	2.46	.38
5	56	♂	8.2	12/17/63	10	.43	.51	.75	.10	.73	4.38	.53
					10	.51	.52	.87	.53	.35	2.10	.26
					8	.52	.53	.83	.13	.71	5.32	.65



Lizard source - Outdoor cage

35°C

Jar	Lizard No.	Sex	Weight (gms)	Date	Time (min)	Blank		Manometer			Total O <sub>2</sub> /hr	O <sub>2</sub> (cc/gm/hr)
						start	stop	start	stop	corrected		
4	121	♂	13.1	12/11/63	5	.56	.56	.83	.71	.12	1.44	.11
					5	.56	.57	.70	.66	.05	0.60	.05
					5	.54	.50	.65	.63	—	—	—
3	122	♂	16.3	12/11/63	5	.56	.56	.77	.45	.32	3.84	.24
					5	.56	.57	.92	.60	.33	3.96	.24
					5	.54	.50	.87	.61	.22	2.64	.16
					5	.49	.44	.58	.33	.20	2.40	.15
2	116	♀	22.3	12/13/63	10	.54	.43	.99	.48	.40	2.40	.11
					10	.41	.36	.76	.29	.42	2.52	.11
					10	.37	.30	.83	.33	.43	2.58	.12
1	208+100	♀	21.0	12/13/63	10	.54	.43	.98	.58	.29	1.74	.08
					10	.41	.36	.86	.42	.39	2.34	.11
					10	.37	.30	.88	.41	.40	2.40	.11
4	69	♂	18.7	12/14/63	10	.57	.57	.93	.69	.24	1.44	.08
					10	.56	.54	.71	.33	.36	2.16	.12
					10	.54	.49	.90	.46	.39	2.34	.12
5	106	♀	17.0	12/14/63	10	.57	.57	.68	.35	.33	1.98	.12
					10	.56	.54	.87	.43	.42	2.52	.15
					10	.54	.49	.83	.25	.53	3.18	.19
3	93	♂	13.7	12/16/63	10	.36	.34	.95	.62	.31	1.86	.14
					10	.36	.36	.59	.15	.44	2.64	.19
					10	.36	.30	.75	.26	.43	2.58	.19
4	49	♀	15.3	12/17/63	6	.43	.50	.81	.20	.69	6.90	.45
					10	.51	.52	.89	.16	.74	4.44	.29
					10	.52	.53	.79	.59	.21	1.26	.08
2	208	♀	20.0	12/18/63	10	.50	.52	.89	.18	.73	4.38	.22
					10	.48	.48	.75	.27	.48	2.88	.14
					10	.46	.46	.77	.17	.60	3.60	.18
1	213	♂	13.5	12/19/63	10	.58	.59	.77	.29	.49	2.94	.22
					10	.60	.62	.77	.22	.57	3.42	.25
					10	.57	.54	.69	.21	.45	2.70	.20





## Lizard Source — Outdoor cage

35°C

Jar	Lizard No.	Sex	Weight (gms)	Date	Time (min)	Blank		Manometer			Total O <sub>2</sub> /hr	O <sub>2</sub> (cc/gm/hr)
						start	stop	start	stop	corrected		
4	88	♀	24.3	12/18/63	10	.50	.52	.61	.12	.51	3.06	.12
					10	.48	.48	.82	.43	.39	2.34	.10
					10	.46	.46	.74	.41	.33	1.98	.08
3	123	♀	21.0	12/19/63	10	.58	.59	.85	.19	.67	4.02	.19
					5	.60	.61	.60	.18	.43	5.16	.24
					5	.57	.60	.63	.14	.52	6.24	.30
4	63	♂	15.3	12/19/63	10	.58	.59	.87	.46	.42	2.52	.16
					10	.60	.62	.73	.29	.46	2.76	.18
					10	.57	.54	.81	.38	.40	2.40	.16
5	72	♀	16.2	12/19/63	10	.58	.59	.82	.53	.30	1.80	.11
					10	.60	.62	.76	.46	.32	1.92	.12
					10	.57	.54	.90	.55	.32	1.92	.12
2	92	♀	12.7	12/19/63	4	.58	.58	.72	.03	.69	10.35	—
					10	.60	.62	.76	.18	.60	3.60	.28
					10	.57	.54	.77	.36	.38	2.28	.18
					5	.59	.59	.90	.35	.55	6.60	.52
7	16	♂	16.5	12/19/63	10	.58	.59	.67	.51	.17	1.02	.06
					10	.60	.62	.70	.45	.27	1.62	.10
					10	.57	.54	.62	.25	.34	2.04	.12
2	16	♂	16.5	12/20/63	10	.55	.49	.91	.91	—	—	—
					10	.49	.50	.87	.87	—	—	—
					10	.48	.50	.89	.89	—	—	—
4	203+1	♂	13.8	12/20/63	10	.55	.49	.85	.52	.27	1.62	.12
					10	.49	.50	.92	.60	.33	1.98	.14
					10	.48	.58	.57	.36	.31	1.86	.13



PHRYNOSOMA M'CALLI

15°C

Jar	Lizard*		Weight (gms.)	Date	Time (min.)	Blank		Manometer			Total O <sub>2</sub> /hr	O <sub>2</sub> (cc/gm/hr)
	No.	Sex				start	stop	start	stop	corrected		
5	128		12.1	4/16/64	20	58	45	76	42	.21	.63	.05
				"	20	43	37	74	63	.05	.15	.01
				"	20	37	33	59	46	.09	.27	.02
1	129		8.5	"	20	58	45	90	60	.17	.51	.06
				"	20	43	37	96	85	.05	.15	.02
				"	20	37	33	82	70	.08	.24	.03
3	73		16.0	"	15	58	47	101	0			
				"	9	43	40	78	24			
				"	10	37	35	80	16			
4	77		12.4	"	13	58	48	72	5			
				"	10	43	40	67	10			
				"	18	37	33	89	7			
8	201+5		12.2	"	20	58	45	80	83			
				"	20	43	37	79	82			
				"	20	37	33	81	81			
6	47		14.7	"	20	58	45	90	63			
				"	20	43	37	89	65			
				"	20	37	33	61	45			
2	66		12.3	"	20	58	45	84	61			
				"	20	43	37	86	73			
				"	20	37	33	71	63			
7	62		12.9	"	18	58	46	89	4			
				"	20	43	37	82	24			
				"	20	37	33	79	53			

\* #128 - Caught in field, 4/11/64

129 - " " " 4/11/64

{ 73 - Spent winter in outdoor cages;

{ 77 - emerged from hibernation: mid-March.

201+5 - same as #73 & 77.

47 - Held since 10/16/63 at 15°C, no light.

66 - " " " " " " "

62 - " " " " " " "



25°C

Jar	Lizard*		Weight (gms.)	Date	Time (min.)	Blank		Manometer			Total O <sub>2</sub> /hr	O <sub>2</sub> (cc/gm/hr)
	No.	Sex				start	stop	start	stop	corrected		
5	128		12.1	4/16/64	20	59	57	88	52	.34	1.02	.08
				"	20	56	58	80	50	.32	.96	.08
				"	20	59	63	85	57	.32	.96	.08
1	129		8.5	"	20	59	57	88	73	.13	.39	.05
				"	20	56	58	71	52	.21	.63	.07
				"	20	59	63	86	60	.30	.90	.11
3	73		16.0	"	3	59	59	59	38			
				"	7	56	58	67	5			
				"	6 1/2	59	59	84	0			
4	77		12.4	"	12	59	62	83	24			
				"	13	56	57	76	4			
				"	19	59	62	70	0			
8	201+5		12.2	"	13	59	62	74	0			
				"	6	59	59	71	23			
				"	—	—	—	—	—	—	—	—
6	47		14.7	"	12	59	62	89	32			
				"	20	56	58	87	87			
				"	20	59	63	90	30			
2	66		12.3	"	20	56	58	86	28			
				"	20	59	63	85	56			
				"	—	—	—	—	—	—	—	—
7	62		12.9	"	20	59	57	80	41			
				"	20	56	58	76	40			
				"	20	59	63	76	54			

\* #128 - Caught in field, 4/11/64

129 - " " " "

73 } spent winter in outdoor cages;

77 } emerged from hibernation: mid-March

201+5 - same as #73 & 77.

47 - Held since 10/16/63 at 15°C, no light

66 - " " " " " "

62 - " " " " " "



35°C

Jar	Lizard*		Weight (gms.)	Date	Time (min.)	Blank		Manometer			Total O <sub>2</sub> /hr.	O <sub>2</sub> (cc/gm/hr)
	No.	Sex				start	stop	start	stop	corrected		
5	128		12.1	4/16/64	5	42	23	75	19	.37	4.44	.36
				"	5	49	34	85	52	.18	2.16	.18
				"	5	57	42	73	30	.28	3.36	.28
1	129		8.5	"	5	42	23	74	21	.34	4.08	.48
				"	5	49	34	67	40	.12	1.44	.17
				"	5	57	42	84	49	.20	2.40	.28
3	73		16.0	"	4	42	32	62	7			
				"	9	49	25	95	41			
				"	3	57	48	54	3			
4	77		12.4	"	5	42	23	77	12			
				"	5	49	34	78	55			
				"	5	57	42	72	43			
8	201+5		12.2	"	2	42	39	42	0			
				"	5	49	34	76	0			
				"	5	57	42	73	23			
6	47		14.7	"	5	42	23	59	17			
				"	5	49	34	82	64			
				"	5	57	42	81	50			
2	66		12.3	"	5	42	23	70	42			
				"	5	49	34	75	44			
				"	5	57	42	86	72			
7	62		12.9	"	5	42	23	77	50			
				"	5	49	34	68	37			
				"	5	57	42	87	66			

\* #128 - Caught in field, 4/11/64

201+5 - same as #73 & 77.

129 - " " " "

47 - Held since 10/16/63 at 15°C, no light.

73 } spent winter in outdoor cages;  
77 } emerged from hibernation: mid-March

66 - " " " " " "

62 - " " " " " "





PHRYNOSOMA M'CALLI

Lizard Source — Field

20°C

Jar	Lizard No.	Sex	Weight (gms.)	Date	Time (min.)	Blank		Manometer			Total O <sub>2</sub> /hr.	O <sub>2</sub> (cc/gm/hr)
						start	stop	start	stop	corrected		
1	8	♂	19.1	6/9/64	15	.48	.66	.77	.76	.19	.76	.04
				"	7	.60	.31	.76	.52	—	—	—
				"	10	.56	.73	.76	.77	.18	1.08	.06
2	15	♂	15.7	"	15	.48	.66	.82	.80	.20	.80	.05
				"	7	.60	.31	.80	.48	.20	1.72	.11
				"	10	.56	.73	.74	.71	.20	1.20	.08
3	3	♂	19.2	"	15	.48	.66	.81	.79	.20	.80	.04
				"	7	.60	.31	.79	.45	.05	.43	.02
				"	10	.56	.73	.74	.70	.21	1.26	.06
4	7	♂	16.2	"	15	.48	.66	.75	.07	.86	3.44	.21
				"	7	.60	.31	.79	.41	.09	.77	.05
				"	10	.56	.73	.75	.74	.18	1.08	.07
5	12	♂	16.0	"	15	.48	.66	.86	.68	.36	1.44	.09
				"	7	.60	.31	.70	.03	.38	3.27	.20
				"	10	.56	.73	.62	.05	.74	4.44	.28
6	4	♀	16.6	"	15	.48	.66	.80	.81	.19	.76	.04
				"	7	.60	.31	.78	.66	—	—	—
				"	10	.56	.73	.79	.81	.19	1.14	.07
1	9	♂	11.6	6/10/64	15	.44	.29	.78	.54	.09	.36	.03
				"	15	.45	.65	.76	.69	.27	1.08	.09
				"	15	.65	.53	.79	.66	—	—	—
2	5	♂	12.2	"	15	.44	.29	.73	.54	.04	.16	.01
				"	15	.45	.65	.70	.69	.21	.84	.07
				"	15	.65	.53	.76	.36	.28	1.12	.09
3	16	♂	16.9	"	15	.44	.29	.83	.33	.35	1.40	.08
				"	15	.45	.65	.71	.48	.43	1.72	.10
				"	6	.65	.47	.72	.18	.36	3.60	.21
4	11	♂	14.0	"	15	.44	.29	.89	.77	—	—	—
				"	15	.45	.65	.68	.48	.40	1.60	.11
				"	15	.65	.53	.73	.48	.13	.52	.04
3				"	6	.64	.53	.76	.46	.19	1.90	.11



PHRYNOSOMA M'CALLI

Lizard Source - Field

20°C

Jar	Lizard No.	Sex	Weight (gms.)	Date	Time (min.)	Blank		Manometer			Total O <sub>2</sub> /hr.	O <sub>2</sub> (cc/gm/hr)
						start	stop	start	stop	corrected		
5	14	♂	17.2	6/10/64	15	.44	.29	.79	.70	—	—	—
					"	.45	.65	.71	.69	.22	.88	.05
					"	.65	.53	.69	.43	.14	.56	.03
6	2	♂	11.1	"	15	.44	.29	.81	.66	—	—	—
					"	.45	.65	.71	.75	.24	.96	.09
					"	.65	.53	.73	.45	.16	.64	.06



PHRYNOSOMA M'CALLI

Lizard Source - Field

30°C

Jar	Lizard No.	Sex	Weight (gms.)	Date	Time (min.)	Blank		Manometer			Total O <sub>2</sub> /hr.	O <sub>2</sub> (cc/gm/hr)
						start	stop	start	stop	corrected		
1	8	♂	19.1	6/9/64	5	.50	.47	.79	.30	.46	5.52	.29
				"	10	.49	.49	.83	.22	.61	3.66	.19
				"	10	.53	.54	.76	.30	.47	2.82	.15
2	15	♂	15.7	"	10	.50	.49	.77	.55	.21	1.26	.08
				"	10	.49	.49	.76	.58	.18	1.08	.07
				"	10	.53	.54	.76	.63	.14	.84	.05
3	3	♂	19.2	"	5	.50	.47	.76	.17	.56	6.72	.35
				"	10	.49	.49	.76	.30	.46	2.76	.14
				"	10	.53	.54	.73	.71	.03	.18	.01
4	7	♂	16.2	"	10	.50	.49	.83	.50	.32	1.92	.12
				"	10	.49	.49	.77	.33	.44	2.64	.16
				"	10	.53	.54	.76	.75	.02	.12	.01
5	12	♂	16.0	"	10	.50	.49	.79	.50	.28	1.68	10.0
				"	10	.49	.49	.85	.82	.03	.18	.01
				"	10	.53	.54	.84	.03	.82	4.92	.31
6	4	♀	16.6	"	10	.50	.49	.74	.71	.02	.12	.01
				"	5	.49	.49	.71	.19	.52	6.24	.38
				"	10	.53	.54	.79	.72	.08	.48	.03
1	9	♂	11.6	6/10/64	10	.53	.53	.74	.58	.16	.96	.08
				"	10	.53	.53	.81	.79	.02	.12	.01
				"	10	.54	.57	.79	.57	.25	1.50	.13
2	5	♂	12.2	"	10	.53	.53	.75	.39	.36	2.16	.18
				"	10	.53	.53	.70	.57	.13	.78	.06
				"	6	.54	.55	.81	.09	.73	7.30	.60
3	16	♂	16.9	"	—	—	—	—	—	—	—	—
				"	10	.53	.53	.79	.32	.47	2.82	.17
				"	10	.54	.57	.90	.34	.59	3.54	.21
4	11	♂	14.0	"	7	.53	.53	.70	.11	.59	5.07	.36
				"	8	.53	.53	.82	.04	.78	5.85	.42
				"	10	.54	.57	.86	.09	.80	4.80	.34



Lizard Source—Field

30°C

Jar	Lizard No.	Sex	Weight (gms.)	Date	Time (min.)	Blank		Manometer			Total O <sub>2</sub> /hr.	O <sub>2</sub> (cc/gm/hr)
						start	stop	start	stop	corrected		
5	14	♂	17.2	6/10/64	4	.53	.53	.59	.02	.57	8.55	.50
				"	8	.53	.53	.83	.17	.66	4.95	.29
				"	10	.54	.57	.88	.57	.34	2.04	.12
6	2	♂	11.1	"	10	.53	.53	.58	.25	.33	1.98	.18
				"	10	.53	.53	.87	.86	.01	.06	—
				"	10	.54	.57	.83	.42	.44	2.64	.24
5				"	4	.53	.53	.78	.03	.75	11.25	.65





Lizard Source - Field40°C

Jar	Lizard No.	Sex	Weight (gms.)	Date	Time (min.)	Blank		Manometer			Total O <sub>2</sub> /hr.	O <sub>2</sub> (cc/gm/hr)
						start	stop	start	stop	corrected		
1	8	♂	19.1	6/8/64	5	.55	.49	.70	.15	.49	5.88	.31
					"	.48	.55	.79	.52	.34	4.08	.21
					"	.55	.56	.68	.47	.22	2.64	.14
2	15	♂	15.7	"	5	.55	.49	.77	.42	.29	3.48	.22
					"	.48	.55	.77	.53	.31	3.72	.24
					"	.55	.56	.75	.45	.31	3.72	.24
3	3	♂	19.2	"	5	.55	.49	.83	.56	.21	2.52	.13
					"	.48	.55	.80	.49	.38	4.56	.24
					"	.55	.56	.72	.61	.12	1.44	.08
4	7	♂	16.2	"	5	.55	.49	.79	.78	-	-	-
					"	.48	.55	.78	.78	.07	.84	.05
					"	.55	.56	.82	.78	.05	.60	.04
5	12	♂	16.0	"	5	.55	.49	.77	.73	-	-	-
					"	.48	.55	.73	.32	.48	5.76	.36
					"	.55	.56	.76	.38	.39	4.68	.29
6	4	♀	16.6	"	5	.55	.49	.82	.66	.10	1.20	.07
					"	.48	.55	.76	.38	.45	5.40	.32
					"	.55	.56	.65	.35	.31	3.72	.22
1	9	♂	11.6	6/10/64	5	.47	.49	.81	.59	.24	2.88	.25
					"	.49	.50	.83	.62	.22	2.20	.19
					"	.50	.49	.79	.57	.21	2.10	.18
2	5	♂	12.2	"	5	.47	.49	.80	.64	.18	2.16	.18
					"	.49	.50	.88	.65	.24	2.40	.20
					"	.50	.49	.84	.64	.19	1.90	.16
3	16	♂	16.9	"	5	.47	.49	.79	.31	.50	6.00	.36
					"	.49	.50	.85	.84	.02	.20	.01
					"	.50	.49	.68	.17	.50	10.0	.59
4	11	♂	14.0	"	5	.47	.49	.82	.29	.55	6.6	.47
					"	.49	.50	.67	.00	.68	9.06	.65
					"	.50	.49	.82	.02	.79	7.90	.56



Lizard Source - Field40°C

Jar	Lizard No.	Sex	Weight (gms.)	Date	Time (min.)	Blank		Manometer		corrected	Total O <sub>2</sub> /hr.	O <sub>2</sub> (cc/gm/hr)
						start	stop	start	stop			
5	14	♂	17.2	6/10/64	5	.47	.49	.80	.60	.22	2.64	.15
					6	.49	.50	.81	.57	.25	2.50	.14
					6	.50	.49	.86	.59	.26	2.60	.15
6	2	♂	11.1	..	5	.48	.49	.83	.47	.37	4.44	.40
					3	.49	.50	.54	.00	.55	11.0	.99
					3	.50	.49	.89	.15	.73	14.6	1.32



PHRYNOSOMA M'CALLI

FIELD ANIMALS

TEMPERATURE - 45°C.

JAR	LIZARD NO.	SEX	WT. (GMS.)	DATE	TIME (MIN)	BLANK START	BLANK STOP	MANOMETER START	MANOMETER STOP	CORRECTED	TOTAL O <sub>2</sub> /HR. (cc/gm/hr)
1	216	♀	13.6	8/64	1	.42	.42	.97	.20	.77	46.20 3.40
					1	.42	.42	.91	.66	.25	15.00 1.10
					1/2	.43	.43	.96	.25	.71	85.20 6.26
					1/3	.43	.43	.88	.15	.73	131.40 9.66
					2/3	.43	.43	.97	.16	.81	72.90 5.36
					1	.44	.44	.95	.21	.74	44.40 3.26
					1	.44	.44	.88	.12	.76	45.60 3.35
					1	.45	.45	.88	.84	<del>.04</del>	2.40 0.18
					1	.45	.46	.84	.70	.15	9.00 0.66
					1	.46	.46	.70	.25	.45	27.00 1.98
					1/2	.48	.48	.86	.30	.56	67.20 4.94
					1	.48	.48	.96	.26	.70	42.00 3.09
					2	.48	.48	.90	.72	.18	5.40 0.40
2	217	♀	14.9	8/64	1	.46	.46	.88	.40	.48	28.80 1.93
					1/2	.46	.46	.88	.21	.67	80.40 5.40
					1	.46	.47	.87	.21	.67	40.20 2.70
					1	.47	.47	.88	.56	.32	19.20 1.29
					1	.48	.48	.86	.41	.45	27.00 1.81
					1 1/2	.48	.48	.80	.08	.72	28.80 1.93
					1	.48	.48	.85	.40	.45	27.00 1.81
					2/3	.48	.48	.89	.16	.73	65.70 4.41
					1	.48	.48	.85	.32	.53	31.80 2.13
					3	.48	.48	.87	.26	.61	12.20 0.82
					1	.48	.48	.86	.53	.33	19.80 1.33
					1	.48	.48	.85	.52	.33	19.80 1.33
					1	.48	.48	.46	.15	.31	18.60 1.25
1	219	♀	16.5	9/64	1 1/2	.40	.40	.93	.14	.79	31.60 1.92
			<del>14.6</del>		2	.40	.40	.93	.26	.67	20.10 1.22
					1/2	.38	.38	.65	.45	.20	24.00 1.45
					1/2	.38	.38	.65	.31	.34	40.80 2.47



PHRYNOSOMA M'CALLI

FIELD ANIMALS

TEMPERATURE - 45°C.

JAR	LIZARD No.	SEX	WT. (GMS)	DATE	TIME (MIN)	BLANK START	BLANK STOP	MANOMETER START	MANOMETER STOP	CORRECTED	TOTAL O <sub>2</sub> /HR. (cc/gml/hr)
1	219 (CONT.)				1	.38	.38	.74	.49	.25	15.00 0.91
					1/2	.38	.38	.65	.35	.30	36.00 2.18
					1/2	.38	.38	.70	.63	.07	4.20 0.25
					1/2	.38	.38	.70	.44	.26	31.20 1.89
					1	.38	.38	.71	.30	.41	24.60 1.49
					1	.38	.38	.74	.34	.40	24.00 1.45
					1/2	.38	.38	.76	.42	.34	20.24 1.23
					2	.38	.38	.74	.65	.09	2.70 0.16
					1/2	.38	.38	.75	.00	.75	90.00 5.45
2	218	♀	14.6	8/64	2	.40	.40	.77	.36	.41	12.30 0.84
					4 1/2	.40	.40	.75	.19	.56	7.45 0.51
					3	.40	.40	.79	.41	.38	7.60 0.52
					5	.40	.39	.82	.24	.57	6.84 0.47
					2	.39	.39	.76	.44	.32	9.60 0.66
					2	.39	.39	.82	.66	.16	4.80 0.33
					2	.39	.39	.78	.54	.24	7.20 0.49
					2	.39	.39	.77	.55	.22	6.60 0.45
					2	.39	.39	.75	.58	.17	5.10 0.35
					4	.39	.38	.78	.62	<del>.15</del> .16	2.25 0.15
					3	.38	.38	.75	.22	.53	10.60 0.72
					3	.38	.38	.76	.51	.25	5.00 0.34
					2	.38	.38	.74	.36	.38	11.40 0.78
1	220	♀	21.3	10/64	2 1/2	.67	.67	.68	.42	.26	6.24 0.29
					2	.67	.67	.70	.11	.59	17.70 0.83
					1 1/2	.67	.71	.65	.43	.26	10.40 0.49
					2 1/2	.72	.76	.68	.48	.24	5.76 0.27
					1	.76	.76	.76	.58	.18	10.80 0.51
					2	.76	.77	.78	.33	.46	13.80 0.65
					1	.77	.78	.47	.59	.09	5.40 0.25
					2	.78	.79	.65	.46	.20	6.00 0.28





# PHRYNOSOMA M'CALLI

## Field Animals

Temperature - 41.5°

Tar	Lizard No	Sex	WT (gms)	Date	Time (min)	BLANK start	BLANK stop	MANOMETER start	MANOMETER stop	Corrected	Vol. / hr.	Temp
1	220	(Cont.)			1 1/2	.79	.80	.68	.21	.40		27.5
					2	.81	.81	.66	.47	.16.19	9.2	27.5
2	9	♂	9.6	10/64	3 1/2	.43	.43	.85	.14	.69	11.50	27.0
					3	.49	.49	.84	.15	.67	12.45	27.40
					1 1/2	.57	.57	.69	.20	.57	21.60	27.8
					3	.57	.57	.75	.41	.34	6.50	27.11
					1 1/2	.57	.57	.71	.37	.32	12.30	27.5
					1/12	.65	.65	.68	.00	.68	47.42	10.20
					2	.65	.66	.61	.14	.54	16.20	27.5
					3/4	.60	.60	.63	.12	.53	42.40	27.42
					2	.66	.66	.68	.00	.68	36.40	27.12
					2	.66	.66	.68	.38	.10	3.00	27.51



Phrynosoma m'calli

45°C - Field animals - Summary

<u>Lizard No.</u>	<u><math>\bar{x}</math>-4 lowest measure.</u>	<u><math>\bar{x}</math>-4 highest measure.</u>	<u><math>\bar{x}</math>-all measure.</u>	<u>N(all measure)</u>
216	0.58	6.55	3.36	13
217	1.17	3.66	2.16	13
218	0.29	0.75	0.51	13
219	0.63	3.00	1.69	13
220	0.27	0.68	0.46	10
9	0.89	4.90	2.63	10
$\bar{x}$	0.64	3.26	1.80	72



6 hours light/day35°C

Tar	Lizard No.	Sex	Weight (gms)	Date	Time (min)	Blank		Manometer			Total O <sub>2</sub> /hr.	O <sub>2</sub> (cc/gm/hr)
						start	stop	start	stop	corrected		
1	11	♂	11.7	12/15/64	10	.46	.51	.80	.01	.84	5.04	0.43
				"	10	.51	.51	.78	.01	.77	4.62	0.39
				"	10	.52	.54	.80	.23	.59	3.54	0.30
		(Active)		"	10	.54	.57	.80	.14	.69	4.14	0.35
				"	11	.58	.63	.88	.35	.58	3.16	0.27
				"	10	.63	.68	.87	.63	.29	1.74	0.15
2	13	♀	9.1	"	10	.46	.47	.91	.97	—	—	—
				"	10	.47	.47	.97	.95	—	—	—
				"	10	.47	.48	.94	.83	.12	0.72	0.08
				"	10	.48	.48	.83	.45	.38	2.28	0.25
				"	10	.48	.48	.79	.78	.01	0.06	0.01
				"	10	.48	.48	.78	.59	.19	1.14	0.12
4	14	♂	9.1	"	10	.47	.49	.80	.78	.04	0.24	0.03
				"	10	.49	.51	.76	.47	.31	1.86	0.20
				"	10	.52	.53	.42	.11	.32	1.92	0.21
				"	10	.53	.60	.78	.78	.07	0.42	0.05
				"	10	.60	.70	.78	.75	.13	0.78	0.08
				"	12	.71	.80	.74	.37	.46	2.30	0.25
5	4	♀	8.7	"	10	.46	.51	.70	.44	.31	1.86	0.21
				"	10	.51	.51	.75	.44	.31	1.86	0.21
				"	10	.52	.54	.84	.81	.05	0.30	0.03
				"	10	.54	.57	.80	.79	.04	0.24	0.03
				"	11	.58	.63	.79	.33	.51	2.78	0.32
				"	10	.63	.68	.71	.54	.22	1.32	0.15
6	1	♀	12.5	"	8	.46	.51	.78	.13	.70	5.25	0.42
				"	10	.51	.51	.81	.05	.76	4.56	0.36
		(Active)		"	6	.52	.54	.85	.08	.79	7.90	0.63
				"	10	.54	.57	.83	.13	.73	4.38	0.35
				"	11	.58	.63	.80	.04	.81	4.41	0.35
				"	10	.63	.68	.86	.02	.89	5.34	0.43



6 hours light/day
35°C

Jar	Lizard No.	Sex	Weight (gms)	Date	Time (min)	Blank		Manometer			Total O <sub>2</sub> /hr	O <sub>2</sub> (cc/gm/hr)
						start	stop	start	stop	corrected		
8	8	♂	10.6	12/15/64	10	.46	.47	.80	.71	.10	0.60	0.06
				"	10	.47	.47	.69	.03	.66	3.96	0.37
				"	10	.47	.48	.79	.36	.44	2.64	0.25
				"	10	.48	.48	.85	.20	.65	3.90	0.37
				"	10	.48	.48	.78	.56	.22	1.32	0.12
				"	10	.48	.48	.82	.46	.36	2.16	0.20





15 hours light/day

35°C

Jar	Lizard No.	Sex	Weight (gms)	Date	Time (min)	Blank start	Blank stop	Manometer start	Manometer stop	Manometer corrected	Total O <sub>2</sub> /hr.	O <sub>2</sub> (cc/gm/hr)
3	7	♂	15.1	12/15/64	10	.47	.49	.76	.12	.66	3.96	0.26
				"	10	.49	.51	.71	.33	.40	2.40	0.16
				"	10	.52	.53	.66	.36	.31	1.86	0.12
				"	10	.53	.60	.70	.64	.13	0.78	0.05
				"	10	.60	.70	.60	.09	.61	3.66	0.24
				"	12	.71	.80	.74	.64	.19	0.95	0.06
7	2	♂	10.6	"	10	.46	.47	.85	.10	.76	4.56	0.43
				"	10	.47	.47	.77	.53	.24	1.44	0.14
				"	10	.47	.48	.73	.53	.21	1.26	0.12
				"	10	.48	.48	.85	.84	.01	0.06	0.01
				"	10	.48	.48	.85	.54	.31	1.86	0.18
				"	10	.48	.48	.75	.59	.16	0.96	0.09



STP

STP

To convert O<sub>2</sub> volumes measured to standard conditions (0°C and 76 cm Hg. pressure) (It will be labelled STP on forms):

$$\frac{P_{\text{final}} \times V_{\text{final}}}{T_{\text{final}}} = \frac{P_{\text{initial}} \times V_{\text{initial}}}{T_{\text{initial}}}$$

$$V_{\text{final}} = V_{\text{initial}} \times \left( \frac{P_{\text{initial}}}{P_{\text{final}}} \right) \times \left( \frac{T_{\text{final}}}{T_{\text{initial}}} \right)$$

Example; What is volume of gas at standard conditions (0°C., 76 cm. Hg.) that has a volume of 180 cc at 40°C and a pressure of 80 cm Hg.? (0°C = 273°K)

$$V_{\text{final}} = 180 \text{ cc} \times \left( \frac{80 \text{ cm. Hg.}}{76 \text{ cm. Hg.}} \right) \times \left( \frac{273^\circ \text{K}}{313^\circ \text{K}} \right)$$

$$V_{\text{final}} = 180 \text{ cc} \times 1.05 \times .87$$

$$V_{\text{final}} = 165 \text{ cc. STP}$$

$$V_{\text{final}} = \frac{x \text{ cc} \times .96}{x \text{ cc} \times .91} \left[ \frac{73 \text{ cm Hg}}{76 \text{ cm Hg}} \right] \times .95 \left[ \frac{273^\circ \text{K}}{288^\circ \text{K}} \right] \text{ at } 15^\circ \text{C.}$$

$$V_{\text{final}} = \frac{x \text{ cc} \times .96 \times .92}{x \text{ cc} \times .88} \left[ \frac{273^\circ \text{K}}{298^\circ \text{K}} \right] \text{ at } 25^\circ \text{C.}$$

$$V_{\text{final}} = \frac{x \text{ cc} \times .96 \times .89}{x \text{ cc} \times .85} \left[ \frac{273^\circ \text{K}}{308^\circ \text{K}} \right] \text{ at } 35^\circ \text{C.}$$



$$V_{final} = X_{cc} \times .96 \times [.93] \left( \frac{273^{\circ}K}{293^{\circ}K} \right) \text{ at } 20^{\circ}C$$

$$= X_{cc} \times .89$$

$$V_{final} = X_{cc} \times .96 \times [.90] \left[ \frac{273^{\circ}K}{303^{\circ}K} \right] \text{ at } 30^{\circ}C$$

$$= X_{cc} \times .86$$

$$V_{final} = X_{cc} \times .96 \times [.87] \left[ \frac{273^{\circ}K}{313^{\circ}K} \right] \text{ at } 40^{\circ}C$$

$$= X_{cc} \times .83$$

$$V_{final} = X_{cc} \times .96 \times [.86] \left[ \frac{273^{\circ}K}{318^{\circ}K} \right] \text{ at } 45^{\circ}C$$

$$X_{cc} \times .82$$





Field

15°C

O<sub>2</sub> (cc/gm/hr)

Lizard No.	Sex	Weight	Date	No.	$\bar{X}$	STP X	STP X <sup>2</sup>
2	♂	12.7	8-63	5	.10	.09	.01
3	♀	11.5	"	5	.10	.09	.01
120	♂	12.0	"	3	.03	.03	.00
122	♂	15.6	"	4	.11	.10	.01
124	♀	15.3	"	2	.03	.03	.00
121	♂	10.3	"	2	.03	.03	.00
125	♀	12.6	"	3	.04	.04	.00
119	♀	14.4	"	3	.02	.02	.00
118	♀	18.3	"	2	.04	.04	.00
123	♀	20.0	"	4	.10	.09	.01
127		12.1	"	---	.05	---	---
		8.5	"	---	.02	---	---

N = 37 10 10

$\Sigma X = 0.56$

$\Sigma X^2 = 0.04$

$\bar{X} = 0.06$

$\bar{X}^2 = 0.01$

Range: .02-.10

$$s^2 = \frac{.04 - 10(.01)}{9} = \frac{.06}{9} = .006$$

$$SE = \sqrt{\frac{.006}{10}} = \sqrt{.0006} = .02$$

(.10)  
(.02)



Outdoor cage

15°C.

O<sub>2</sub> (cc/gm/hr)

Lizard No.	Sex	Weight	Date	No.	$\bar{X}$	STP X	STP X <sup>2</sup>
110	♀	18.7	8-63	2	.12	.11	.01
200+109	♀	15.0	"	4	.07	.06	.00
103	♂	16.2	"	4	.08	.07	.00
287	♀	14.8	"	4	.17	.15	.02
51	♀	17.6	"	3	.07	.06	.00
97	♀	20.0	"	6	.09	.08	.01
299	♂	14.3	"	2	.05	.05	.00
101	♂	17.4	"	3	.03	.03	.00
117	♂	16.4	"	3	.02	.02	.00
105	♂	12.1	"	3	.05	.05	.00

$$N = 34 \quad 10 \quad 10$$

$$\Sigma X = 0.68$$

$$\Sigma X^2 = 0.04$$

$$\bar{X} = .07$$

$$\bar{X}^2 = .01$$

$$\text{Range: } .02 - .15$$

$$s^2 = \frac{.04 - 10(.01)}{9} = \frac{.06}{9} = .006$$

$$SE = \sqrt{\frac{.006}{10}} = \sqrt{.0006} = .02$$

$$\begin{pmatrix} .11 \\ .03 \end{pmatrix}$$



PHRYNOSOMA M'CALLI

Cold room

15°C

O<sub>2</sub> (cc/gm/hr)

Lizard

No.	Sex	Weight	Date
103	♂	14.1	9-63
105	♂	10.3	"
110	♀	16.7	"
97	♀	20.0	"
299	♂	12.6	"
117	♂	14.1	"
287	♀	13.5	"
200+109	♀	13.2	"
86	♀	16.2	"
101	♂	15.3	"

No.	$\bar{X}$	STP X	STP X <sup>2</sup>
4	.08	.07	.01
4	.15	.14	.02
4	.06	.05	.002
4	.11	.10	.01
3	.04	.04	.002
4	.07	.06	.004
4	.04	.04	.002
4	.15	.14	.02
4	.02	.02	.000
4	.05	.05	.003

N= 39      10      10

$\Sigma X =$       .71

$\Sigma X^2 =$       .073

$\bar{X} =$       .07

$\bar{X}^2 =$       .01

Range:      .02-.14

$$S^2 = \frac{.073 - 10(.01)}{9} = \frac{.027}{9} = .003$$

$$SE = \sqrt{\frac{.003}{10}} = \sqrt{.0003} = .017$$

(.10  
.04)



15°C cage (dark)

15°C

Lizard No.	Sex	Weight	Date
85	♀	20.1	12/63
45	♂	9.4	"
86	♀	19.8	"
103+20+30	♂	17.3	"
200+109	♂	14.6	"

<u>O<sub>2</sub> (cc/gm/hr)</u>			
No.	$\bar{X}$	STP $\bar{X}$	STP $\bar{X}^2$
3	.01	.01	.00
3	.09	.08	.01
3	.07	.06	.00
3	.01	.01	.00
4	.06	.05	.00





15°C cage (7 hrs. light)

15°C

Lizard No.	Sex	Weight	Date	No.	$\bar{X}$	STP X	STP X <sup>2</sup>
81	♂	16.3	12/63	3	.01	.01	.00
299	♂	14.0	"	3	.11	.10	.01
67	♀	17.0	"	4	.14	.13	.02
54	♂	13.5	"	3	.12	.11	.01
71	♂	20.3	"	4	.14	.13	.02
41	♀	17.1	"	3	.01	.01	.00



15°C cage (combined)

15°C

Lizard No.	Sex	Weight	Date	<u>O<sub>2</sub> (cc/gm/hr)</u>			
				No.	$\bar{X}$	STP $\bar{X}$	STP <sub>2</sub> $\bar{X}$
85	♀	20.1	12/63	3	.01	.01	.00
45	♂	9.4	"	3	.09	.08	.01
86	♀	19.8	"	3	.07	.06	.00
103+20+30	♂	17.3	"	3	.01	.01	.00
200+109	♂	14.6	"	4	.06	.05	.00
81	♂	16.3	"	3	.01	.01	.00
299	♂	14.0	"	3	.11	.10	.01
67	♀	17.0	"	4	.14	.13	.02
54	♂	13.5	"	3	.12	.11	.01
71	♂	20.3	"	4	.14	.13	.02
41	♀	17.1	"	3	.01	.01	.00
				—	—	—	—

$$N = 36 \quad 11 \quad 11$$

$$\Sigma X = 0.70$$

$$\Sigma X^2 = 0.07$$

$$\bar{X} = 0.06$$

$$\bar{X}^2 = 0.01$$

$$\text{Range: } .01 - .13$$

$$S^2 = \frac{.07 - 11(.01)}{10} = \frac{.04}{10} = .004$$

$$SE = \sqrt{\frac{.004}{11}} = \sqrt{.0004} = .02$$

$$\begin{pmatrix} .10 \\ .02 \end{pmatrix}$$



25°C cage

15°C

				<u>O<sub>2</sub> (cc/gm/hr)</u>			
Lizard						STP	STP
No.	Sex	Weight	Date	No.	$\bar{X}$	$\bar{X}$	$\bar{X}^2$
297	♂	17.8	12/63	4	.13	.11	.01
97	♀	16.6	"	4	.10	.09	.01
39	♀	17.6	"	3	.03	.03	.00
102	♀	20.0	"	3	.02	.02	.00
37	♀	18.5	"	3	.01	.01	.00
108	♂	10.4	"	3	.01	.01	.00
87	♂	13.3	"	3	.02	.02	.00
64	♀	19.4	"	4	.01	.01	.00
29	♀	12.5	"	3	.01	.01	.00
23	♀	17.5	"	3	.01	.01	.00
292	♂	14.3	"	3	.03	.03	.00

$N = 36$       11      11  
 $\Sigma X =$       0.35  
 $\Sigma X^2 =$       0.02  
 $\bar{X} =$       0.03  
 $\bar{X}^2 =$       0.01  
 Range:      .01-.11

$$s^2 = \frac{.02 - 11(.01)}{10} = \frac{.09}{10} = .009$$

$$SE = \sqrt{\frac{.009}{11}} = \sqrt{.0008} = .03$$

$$= \frac{.002}{11} = \dots \begin{pmatrix} .09 \\ .00 \end{pmatrix}$$



35°C cage

O<sub>2</sub> (cc/gm/hr)

15°C

Lizard No.	Sex	Weight	Date	No.	$\bar{X}$	STP X	STP X <sup>2</sup>
40	♀	13.5	12/63	3	.03	.03	.00
95	♀	12.8	"	1	.03	.03	.00
17	♂	7.4	"	3	.04	.04	.00
80	♀	10.0	"	3	.06	.05	.00
117	♂	11.6	"	3	.04	.04	.00
89	♂	10.2	"	3	.18	.16	.03
15	♂	8.2	"	3	.10	.09	.01
201+3	♂	9.3	"	3	.14	.13	.02
114	♀	6.4	"	2	.02	.02	.00
56	♂	8.2	"	2	.02	.02	.00
				—	—	—	—

$N = 26 \quad 10 \quad 10$   
 $\Sigma X = \quad \quad \quad 0.61$   
 $\Sigma X^2 = \quad \quad \quad 0.06$   
 $\bar{X} = \quad \quad \quad 0.06$   
 $\bar{X}^2 = \quad \quad \quad 0.01$   
Range:  $.02-.16$

$$s^2 = \frac{.06 - 10(.01)}{9} = \frac{.04}{9} = .004$$

$$SE = \sqrt{\frac{.004}{10}} = \sqrt{.0004} = .02$$

$\begin{pmatrix} .10 \\ .02 \end{pmatrix}$





Outdoor cage

15°C

O<sub>2</sub> (cc/gm/hr)

Lizard No.	Sex	Weight	Date	No.	$\bar{X}$	STP X	STP X <sup>2</sup>
121	♂	13.1	12/63	3	.02	.02	.00
122	♂	16.3	"	4	.15	.14	.02
116	♀	22.3	"	3	.05	.05	.00
208+100	♀	21.0	"	4	.08	.07	.00
69	♂	18.7	"	2	.02	.02	.00
106	♀	17.0	"	3	.07	.06	.00
93	♂	13.7	"	3	.04	.04	.00
49	♀	15.3	"	3	.07	.06	.00
208	♀	20.0	"	4	.11	.10	.01
88	♀	24.3	"	3	.07	.06	.00
213	♂	13.5	"	3	.08	.07	.00
63	♂	15.3	"	1	.10	.09	.01
123	♀	21.0	"	3	.03	.03	.00
72	♀	16.2	"	3	.06	.05	.00
92	♀	12.7	"	3	.14	.13	.02
16	♂	16.5	"	3	.06	.05	.00
203+1	♂	13.8	"	3	.14	.13	.02

$N = 51$       17      17  
 $\Sigma X =$       ~~1.17~~  
 $\Sigma X^2 =$       0.08  
 $\bar{X} =$       0.07  
 $\bar{X}^2 =$       0.01  
 Range:      .02-.14

$$s^2 = \frac{.08 - 17(.01)}{16} = \frac{.09}{16} = .006$$

$$SE = \sqrt{\frac{.006}{17}} = \sqrt{.0004} = .02$$

(.11  
.03)



# PHRYNOSOMA M'CALLI

Cold room

Lizard No.	Sex	Weight	Date	$C_{\text{ex}} (\text{cc/gm/hr})$			
				No.	$\bar{X}$	STP $\bar{X}$	STP $\bar{X}^2$
103	♂	14.1	9-63	+	.33	.29	.08
105	♂	10.5	"	+	.32	.28	.08
110	♀	16.7	"	+	.25	.20	.04
97	♀	20.0	"	+	.11	.11	.03
299	♂	12.6	"	+	.48	.41	.17
117	♂	14.1	"	+	.40	.35	.12
287	♀	13.5	"	+	.32	.28	.08
200+109	♀	13.2	"	+	.30	.32	.10
86	♀	16.2	"	+	.01	.00	.00
101	♂	15.3	"	+	.20	.18	.03
				-	-	-	-

$N = 10$   
 $\sum X = 4.0$   
 $\sum X^2 = 1.74$   
 $\bar{X} = .40$   
 $\bar{X}^2 = .16$   
 Range: .11-.48

$$s^2 = \frac{2.14 - 10(.16)}{9} = \frac{.54}{9} = .06$$

$$SE = \sqrt{\frac{.06}{10}} = \sqrt{.006} = .024$$

(.38)  
(.22)



Outdoor cage

250

$C_2$  (cm/hr)

Lizard No.	Sex	Weight	Date	No.	$\bar{X}$	$\Sigma X$	$\Sigma X^2$
110	♀	18.7	8-65	3	.16	.17	.02
200+109	♀	15.1	"	2	.23	.25	.06
103	♂	16.2	"	1	.11	.11	.01
287	♀	14.8	"	3	.24	.28	.01
97	♀	20.5	"	2	.21	.18	.02
299	♂	14.3	"	1	.27	.22	.11
101	♂	17.4	"	3	.20	.20	.01
117	♂	16.4	"	2	.24	.20	.01
105	♂	12.1	"	2	.21	.18	.02
				$\Sigma$	$\Sigma$	$\Sigma$	$\Sigma$

$$N = 25 \quad 7 \quad 9$$

$$\Sigma X = 1.91$$

$$\Sigma X^2 = 0.47$$

$$\bar{X} = .076$$

$$\bar{X}^2 = .005$$

$$\text{Range: } .11 - .32$$

$$s^2 = \frac{.47 - 9(.005)}{7} = .04 - .045 = .005$$

$$SE = \sqrt{\frac{.005}{7}} = \sqrt{.0007} = .026$$

(.20)  
(.15)



# Field

2000

0.129, 0.129, 0.129

Lizard No.	Sex	Weight	Date
2	M	12.7	1/10/00
3	F	11.0	"
120	M	12.0	"
122	M	15.0	"
124	F	15.2	"
121	M	16.2	"
125	F	13.0	"
117	F	14.4	"
118	F	15.1	"
123	F	16.0	"
$\bar{V}$		$\bar{V}$	

Lizard No.	$\bar{X}$	$\bar{X}^2$	$\bar{X}^2$
2	12.7	161.29	161.29
3	11.0	121.00	121.00
120	12.0	144.00	144.00
122	15.0	225.00	225.00
124	15.2	231.04	231.04
121	16.2	262.44	262.44
125	13.0	169.00	169.00
117	14.4	207.36	207.36
118	15.1	228.01	228.01
123	16.0	256.00	256.00
$\bar{X}$	13.5	182.25	182.25

$\bar{X}^2$

$\bar{X}^2$

$\bar{X}^2$

$\bar{X}^2$

$\bar{X}^2$

$\bar{X}^2$

$\bar{X}^2$

$\bar{X}^2$

$\bar{X}^2$

$\bar{X}^2$

$\bar{X}^2$

$\bar{X}^2$

$\bar{X}^2$

100.00

100.00

$$\frac{100.00}{10} = 10.00$$

$$\frac{100.00}{10} = 10.00$$

10.00

10.00

10.00

10.00

10.00

10.00

10.00

10.00

10.00





15°C cage (dark)

Lizard No.	Sex	Weight	Date
85	♀	20.1	12/63
45	♂	9.4	"
86	♀	19.8	"
103+20+30	♂	17.3	"
200+109	♂	14.6	"

O<sub>2</sub> (cc/gm/hr)

No.	$\bar{X}$	STP $\bar{X}$	STP $\bar{X}^2$
3	.13	.11	.01
3	.06	.05	.00
3	.04	.04	.00
3	.07	.06	.00
2	.11	.10	.01

25°C



15°C cage (light)25°C

Lizard No.	Sex	Weight	Date
81	♂	16.3	12/63
299	♂	14.0	..
67	♀	17.0	..
54	♂	13.5	..
71	♂	18.5	..
41	♀	17.1	..

No.	<u>O<sub>2</sub> (cc/gm/hr)</u>		
	$\bar{X}$	$\overset{STP}{X}$	$\overset{STP}{X^2}$
3	.12	.11	.01
3	.08	.07	.01
3	.05	.04	.00
3	.19	.17	.03
3	.06	.05	.00
4	.17	.15	.02



# 15°C cage (combined)

Lizard No.	Sex	Weight	Date
85	♀	20.1	12/63
45	♂	9.4	"
86	♀	19.8	"
103+20+30	♂	17.3	"
200+109	♂	14.6	"
81	♂	16.3	"
299	♂	14.0	"
67	♀	17.0	"
54	♂	13.5	"
71	♂	20.3	"
41	♀	17.1	"

<u>O<sub>2</sub> (cc/gm/hr)</u>			
No.	$\bar{X}$	STP X	STP X <sup>2</sup>
3	.13	.11	.01
3	.06	.05	.00
3	.04	.04	.00
3	.07	.06	.00
2	.11	.10	.01
3	.12	.11	.01
3	.08	.07	.01
3	.05	.04	.00
3	.19	.17	.03
3	.06	.05	.00
4	.17	.15	.02
—	—	—	—

$N = 33$       11      11  
 $\Sigma X =$       0.95  
 $\Sigma X^2 =$       0.09  
 $\bar{X} =$       0.09  
 $\bar{X}^2 =$       0.01  
 Range:      .04-.17

$$S^2 = \frac{.09 - 11(.01)}{10} = \frac{.02}{10} = .002$$

$$SE = \sqrt{\frac{.002}{11}} = \sqrt{.0002} = .01$$

$$\begin{pmatrix} .11 \\ .07 \end{pmatrix}$$

25°C



25°C cage

25°C

				<u>O<sub>2</sub> (cc/gm/hr)</u>			
Lizard				No.	$\bar{X}$	STP X	STP X <sup>2</sup>
No.	Sex	Weight	Date				
297	♂	17.8	12/63	3	.22	.19	.04
97	♀	16.6	"	3	.15	.13	.02
39	♀	17.6	"	3	.05	.04	.00
102	♀	20.0	"	3	.24	.21	.04
37	♀	18.5	"	3	.24	.21	.04
108	♂	10.4	"	3	.02	.02	.00
87	♂	13.3	"	3	.13	.11	.01
64	♀	19.4	"	3	.06	.05	.00
29	♀	12.5	"	2	.14	.13	.02
23	♀	17.5	"	3	.10	.09	.01
292	♂	14.3	"	4	.05	.04	.00
				—	—	—	—

$N = 33$       11      11  
 $\Sigma X =$       1.22  
 $\Sigma X^2 =$       0.18  
 $\bar{X} =$       0.11  
 $\bar{X}^2 =$       0.01  
Range:      .02-.21

$$s^2 = \frac{.18 - 11(.01)}{10} = \frac{.07}{10} = .007$$

$$SE = \sqrt{\frac{.007}{11}} = \sqrt{.0006} = .02$$

$\begin{pmatrix} .15 \\ .07 \end{pmatrix}$





35°C cage

25°C

Lizard No.	Sex	Weight	Date	O <sub>2</sub> (cc/gm/hr)			
				No.	$\bar{X}$	STP X	STP <sup>2</sup> X <sup>2</sup>
40	♀	13.5	12/63	3	.10	.09	.01
95	♀	12.8	"	3	.08	.07	.01
17	♂	7.4	"	3	.07	.06	.00
80	♀	10.0	"	3	.13	.11	.01
89	♂	10.2	"	3	.27	.24	.06
15	♂	8.2	"	3	.05	.04	.00
201+3	♂	9.3	"	3	.23	.20	.04
114	♀	6.4	"	3	.10	.09	.01
56	♂	8.2	"	3	.26	.23	.05
				—	—	—	—

$$N = 27 \quad 9 \quad 9$$

$$\Sigma X = 1.13$$

$$\Sigma X^2 = 0.19$$

$$\bar{X} = 0.12$$

$$\bar{X}^2 = 0.01$$

$$\text{Range: } .04 - .24$$

$$S^2 = \frac{.19 - 9(.01)}{8} = \frac{.10}{8} = .01$$

$$SE = \sqrt{\frac{.01}{9}} = \sqrt{.001} = .03$$

(.18  
.06)



# Outdoor cage

25°C

				<u>O<sub>2</sub> (cc/gm/hr)</u>			
Lizard					STP	STP	
<u>No.</u>	<u>Sex</u>	<u>Weight</u>	<u>Date</u>	<u>No.</u>	<u><math>\bar{X}</math></u>	<u>X</u>	<u>X<sup>2</sup></u>
121	♂	13.1	12/63	3	.28	.25	.06
122	♂	16.3	"	3	.08	.07	.01
116	♀	22.3	"	3	.10	.09	.01
208+100	♀	21.0	"	3	.05	.04	.00
69	♂	18.7	"	3	.04	.04	.00
106	♀	17.0	"	3	.09	.08	.01
93	♂	13.7	"	4	<del>.40</del>	<del>.35</del>	<del>.12</del>
49	♀	15.3	"	3	.20	.18	.03
208	♀	20.0	"	2	.28	.25	.06
88	♀	24.3	"	3	.12	.11	.01
213	♂	13.5	"	3	.26	.23	.05
63	♂	15.3	"	3	.18	.16	.03
123	♀	21.0	"	3	.14	.13	.02
72	♀	16.2	"	3	.05	.04	.00
92	♀	12.7	"	3	.17	.15	.02
16	♂	16.5	"	3	.03	.02	.00
203+1	♂	13.8	"	4	.27	.24	.06

OMIT

$$\begin{aligned}
 N &= 52 & 16 & 16 \\
 \Sigma X &= & & 2.08 \\
 \Sigma X^2 &= & & 0.37 \\
 \bar{X} &= & & 0.13 \\
 \overline{X^2} &= & & 0.02 \\
 \text{Range:} & & & .02-.25
 \end{aligned}$$

$$s^2 = \frac{.37 - 16(.02)}{15} = \frac{.05}{15} = .003$$

$$SE = \sqrt{\frac{.003}{16}} = \sqrt{.0002} = .01$$

(.15  
.11)



# PHRYNOSOMA M'CALLI

Cold room

Lizard No.	Sex	Weight	Date
102	♂	14.1	7-62
105	♂	11.2	"
110	♀	18.7	"
97	♀	20.0	"
274	♂	15.0	"
117	♂	14.1	"
287	♀	12.5	"
288+109	♀	12.2	"
101	♂	15.2	"
86	♀	16.2	"

No.	$\bar{x}$	$\sum x$	$\sum x^2$
+	.20	.20	.01
+	.41	.41	.17
+	.20	.20	.04
+	.10	.10	.01
-	.40	.40	.16
+	.20	.20	.04
+	.25	.25	.06
+	.25	.25	.06
+	.11	.11	.01
41-	.05	.04	.00

$$N = 9 \quad 10 \quad 10$$

$$\sum x = 2.11$$

$$\sum x^2 = 1.09$$

$$\bar{x} = .234$$

$$\bar{x}^2 = .055$$

$$\text{Avg.} = .179$$

$$s^2 = \frac{1.09 - (10 \times .055)}{9} = \frac{.04}{9} = .0044$$

$$s = \sqrt{\frac{.04}{9}} = \sqrt{.0044} = .066$$

$$\frac{.234}{.066}$$



# PHRYNOSOMA M'CALLI

## Outdoor cage -

Lizard No.	Sex	Weight	Date
110	♀	18.7	8-63
2004109	♀	15.0	"
103	♂	16.2	"
287	♀	14.8	"
97	♀	21.0	"
299	♂	14.3	"
101	♂	17.4	"
117	♂	16.4	"
105	♂	12.1	"
86	♀	18.0	"

O. L. 1/20/70			
No.	$\bar{x}$	STP $\bar{x}$	STP $\bar{x}^2$
+	.21	.22	.05
-	.12	.11	.01
+	.41	.25	.12
+	.60	.51	.26
+	.25	.21	.04
+	.49	.42	.18
+	.14	.12	.01
+	.35	.30	.09
+	.10	.14	.02
2	.12	.12	.02

N =	27	10	10
$\Sigma x =$		2.52	
$\Sigma x^2 =$		0.70	
$\bar{x} =$		.25	
$\bar{x}^2 =$		.06	
Range:		.11 - .51	

$$s^2 = \frac{.70 - 10(.06)}{7} = \frac{.20}{7} = .028$$

$$SE = \sqrt{\frac{.028}{10}} = \sqrt{.0028} = .047$$

$$\left( \begin{smallmatrix} .25 \\ .11 \end{smallmatrix} \right)$$





# Field

35°C

O<sub>2</sub> (cc/gm/hr)

Lizard No.	Sex	Weight	Date	No.	$\bar{X}$	STP $\bar{X}$	STP $\bar{X}^2$
2	♂	12.7	8-63	4	.52	.44	.20
3	♀	11.5	"	4	.47	.40	.16
120	♂	12.0	"	3	.51	.42	.17
122	♂	15.6	"	4	.28	.24	.06
124	♀	15.3	"	1	.55	.41	.22
121	♂	10.3	"	4	.15	.12	.02
125	♀	12.6	"	4	.20	.17	.03
119	♀	14.4	"	4	.10	.09	.01
118	♀	18.3	"	4	.15	.12	.02
123	♀	20.0	"	4	.22	.22	.07

$N = 50$     10    10  
 $\Sigma X =$     5.75  
 $\Sigma X^2 =$     5.75  
 $\bar{X} =$     .25  
 $\bar{X}^2 =$     .05  
 Range:    .01 - .41

$$S^2 = \frac{95 - 10(5.75)}{9} = \frac{15}{9} = .02$$

$$SE = \sqrt{\frac{.02}{10}} = \sqrt{.002} = .04$$

(.20)  
(.20)



15°C cage (dark)

35°C

				<u>O<sub>2</sub> (cc/gm/hr)</u>			
Lizard							
<u>No.</u>	<u>Sex</u>	<u>Weight</u>	<u>Date</u>	<u>No.</u>	<u><math>\bar{X}</math></u>	<u>STP X</u>	<u>STP X<sup>2</sup></u>
85	♀	20.1	12/63	4	.14	.12	.01
45	♂	9.4	"	3	.11	.09	.01
86	♀	19.8	"	3	.10	.09	.01
103+20+30	♂	17.3	"	3	.13	.11	.01
200+109	♂	14.6	"	3	.14	.12	.01



15°C cage (light)

Lizard

<u>No.</u>	<u>Sex</u>	<u>Weight</u>	<u>Date</u>
81	♂	16.3	12/63
299	♂	14.0	"
67	♀	17.0	"
54	♂	13.5	"
71	♂	20.3	"
41	♀	17.1	"

O<sub>2</sub> (cc/gm/hr)

<u>No.</u>	<u><math>\bar{X}</math></u>	STP	STP
		<u>X</u>	<u>X<sup>2</sup></u>
4	.13	.11	.01
3	.14	.12	.01
3	.11	.09	.01
3	.10	.09	.01
3	.17	.14	.02
3	.13	.11	.01

35°C



15°C cage (combined)

35°C

Lizard No.	Sex	Weight	Date
85	♀	20.1	12/63
45	♂	9.4	"
86	♀	19.8	"
103+20+30	♂	17.3	"
200+109	♂	14.6	"
81	♂	16.3	"
299	♂	14.0	"
67	♀	17.0	"
54	♂	13.5	"
71	♂	20.3	"
41	♀	17.1	"

<u>O<sub>2</sub> (cc/gm/hr)</u>			
No.	$\bar{X}$	STP X	STP X <sup>2</sup>
4	.14	.12	.01
3	.11	.09	.01
3	.10	.09	.01
3	.13	.11	.01
3	.14	.12	.01
4	.13	.11	.01
3	.14	.12	.01
3	.11	.09	.01
3	.10	.09	.01
3	.17	.14	.02
3	.13	.11	.01
—	—	—	—

$$N = 35 \quad 11 \quad 11$$

$$\Sigma X = 1.19$$

$$\Sigma X^2 = 0.12$$

$$\bar{X} = 0.11$$

$$\bar{X}^2 = 0.01$$

$$\text{Range: } .09 - .14$$

$$s^2 = \frac{.12 - 11(.01)}{10} = \frac{.01}{10} = .001$$

$$SE = \sqrt{\frac{.001}{10}} = \sqrt{.0001} = .010$$

$$\begin{pmatrix} .13 \\ .09 \end{pmatrix}$$





25°C cage

35°C

Lizard No.	Sex	Weight	Date
297	♂	17.8	12/63
97	♀	16.6	"
39	♀	17.6	"
102	♀	20.0	"
37	♀	18.5	"
108	♂	10.4	"
87	♂	13.3	"
64	♀	19.4	"
29	♀	12.5	"
23	♀	17.5	"
292	♂	14.3	"

O <sub>2</sub> (cc/gm/hr)			
No.	$\bar{X}$	STP X	STP X <sup>2</sup>
4	.10	.09	.01
3	.09	.08	.01
3	.13	.11	.01
3	.20	.17	.03
3	.20	.17	.03
3	.15	.13	.02
3	.10	.09	.01
3	.09	.08	.01
3	.09	.08	.01
3	<del>.33</del>	<del>.28</del>	<del>.08</del>
3	<del>.42</del>	<del>.36</del>	<del>.13</del>

OMIT

OMIT

N =	28	9	9
$\Sigma X =$			1.00
$\Sigma X^2 =$			0.14
$\bar{X} =$			0.11
$\bar{X}^2 =$			0.01
Range:			.08-.17

$$S^2 = \frac{.14 - 9(.01)}{8} = \frac{.05}{8} = .006$$

$$SE = \sqrt{\frac{.006}{9}} = \sqrt{.0007} = .025$$

(.16)  
(.06)



35°C cage

35°C

Lizard

No.	Sex	Weight	Date
40	♀	13.5	12/63
95	♀	12.8	"
17	♂	7.4	"
80	♀	10.0	"
117	♂	11.6	"
89	♂	10.2	"
15	♂	8.2	"
201+3	♂	9.3	"
114	♀	6.4	"
56	♂	8.2	"

O<sub>2</sub> (cc/gm/hr)

No.	$\bar{X}$	STP X	STP X <sup>2</sup>
2	.04	.04	.00
3	.14	.12	.01
3	.13	.11	.01
3	.22	.19	.04
3	.54	.46	.21
3	.30	.26	.08
3	.53	.45	.20
3	.58	.49	.24
3	.22	.19	.04
3	.48	.41	.17

OMIT?

OMIT?

N =	29	10	10
ΣX =			2.68
ΣX <sup>2</sup> =			1.00
$\bar{X}$ =			.30
$\bar{X}^2$ =			.09
Range:			.11-.49

$$s^2 = \frac{1.00 - 10(.09)}{9} = \frac{.10}{9} = .01$$

$$SE = \sqrt{\frac{.01}{10}} = \sqrt{.001} = .03$$

(.36  
.24)



Outdoor cage35°C

Lizard No.	Sex	Weight	Date
121	♂	13.1	12/63
122	♂	16.3	"
116	♀	22.3	"
208+100	♀	21.0	"
69	♂	18.7	"
106	♀	17.0	"
93	♂	13.7	"
49	♀	15.3	"
208	♀	20.0	"
88	♀	24.3	"
213	♂	13.5	"
63	♂	15.3	"
123	♀	21.0	"
72	♀	16.2	"
92	♀	12.7	"
16	♂	16.5	"
203+1	♂	13.8	"

<u>O<sub>2</sub> (cc/gm/hr)</u>			
No.	$\bar{X}$	STP X	STP X <sup>2</sup>
2	.08	.07	.00
4	.20	.17	.03
3	.11	.09	.01
3	.10	.09	.01
3	.11	.09	.01
3	.15	.13	.02
3	.17	.14	.02
3	.27	.23	.05
3	.18	.15	.02
3	.10	.09	.01
3	.22	.19	.04
3	.17	.14	.02
3	.24	.20	.04
3	.12	.10	.01
2	.23	.20	.04
3	.09	.08	.01
3	.13	.11	.01
—	—	—	—

$N = 50$   
 $\Sigma X = 2.27$   
 $\Sigma X^2 = 0.35$   
 $\bar{X} = 0.13$   
 $\bar{X}^2 = 0.02$   
 Range: .07-.23

$$s^2 = \frac{.35 - 17(.02)}{16} = \frac{.01}{16} = .0006$$

$$SE = \sqrt{\frac{.0006}{17}} = \sqrt{.00003} = .005$$

(.14)  
 (.12)



6 hours light/day

35°C

Lizard No.	Sex	Weight	Date	No.	$\bar{X}$	$\frac{STP}{X}$	$\frac{STP^2}{X^2}$
4	♀	8.7	12/15/64	6	.16	.14	.02
8	♂	10.6	"	6	.23	.20	.04
13	♀	9.1	"	6	.12	.10	.01
14	♂	9.1	"	6	.14	.12	.01

15 hours light/day	{	2	♂	10.6	"	4	.16	.14	.02
		7	♂	15.1	"	6	.15	.13	.02

$$N = 6$$

$$\Sigma X = .83$$

$$\Sigma X^2 = .12$$

$$\bar{X} = .14$$

$$\bar{X}^2 = .0196$$

$$\text{Range} = .10 - .20$$

$$S^2 = \frac{.12 - 6(.0196)}{5} = \frac{.0024}{5} = .0005$$

$$SE = \sqrt{\frac{.0005}{6}} = \sqrt{.00008} = .009$$

$$\begin{pmatrix} .16 \\ .12 \end{pmatrix}$$





# PHRYNOSOMA M'CALLI

Figs

Lizard

No	Sex	Wt	Date	Co.	X (S' X
8	♂	19.1	6/1/64	2	.12
15	♂	15.1	"	3	.12
3	♂	19.2	"	1	.12
7	♂	16.2	"	3	.11
12	♂	16.0	"	3	.17
4	♀	12.6		1	.16
9	♂	11.6	6/10/64	1	.16
5	♂	12.2	"	2	.12
16	♂	16.7	"	2	.11
11	♂	12.5	"	2	.15
14	♂	11.2	"	1	.14
2	♂	11.1	"	1	.15

$\bar{X} = 1.17$   
 $S^2 = .85$   
 $S^2 = .077$   
 $X = .07$   
 $X^2 = .1200$   
 $\bar{X} = .04 = .17$

$$S^2 = \frac{.077 - \frac{.04^2}{12}}{11} = .0077$$

$$S.E. = \sqrt{\frac{.0077}{12}} = .025$$



# PHRYNOSOMA M'CALLI

5076

Field

Hybrid

No.	Sex	Length	Date	Weight	Wing
1	♂	9.1	9/6	0.01	.18
13	♂	10.0	"	0.01	.16
3	♂	19.2	"	0.01	.15
1	♂	6.1	"	0.01	.14
12	♂	16.1	"	0.01	.14
14	♂	10.0	"	0.01	.13
7	♂	10.0	6/14/61	0.01	.13
5	♂	12.0	"	0.01	.13
16	♂	16.1	"	0.01	.13
11	♂	10.0	"	0.01	.13
14	♂	10.0	"	0.01	.134
1	♂	10.1	"	0.01	.18

$$\bar{x} = \frac{120}{12} = 10$$

$$\sum x = 120$$

$$\sum x^2 = 1234$$

$$\bar{x} = 10$$

$$x^2 = 100$$

$$n = 12$$

$$s^2 = \frac{1234 - \frac{(120)^2}{12}}{11} = \frac{104}{11} = 9.45$$

$$S.E. = \sqrt{\frac{104}{12}} = \sqrt{8.67} = 2.94$$



# PHRYNOSOMA M'CALLI

Field

Lizard No.	Sex	Head width	Year	n	$\bar{x}$ (.88) x
8	♂	19.1	6/9.64	5	.122 .18
15	♂	15.7	"	3	.125 .19
3	♂	19.2	"	3	.115 .12
7	♂	16.2	"	1	.04 (.08)
12	♂	16.8	"	3	.100 .12
4	♀	16.6	"	5	.100 .17
9	♂	11.6	6/10.64	3	.11 .17
6	♂	12.2	"	5	.115 .15
16	♂	16.9	"	5	.110 .20
11	♂	14.8	"	3	.100 .46
14	♂	11.2	"	3	.115 .13
2	♂	11.1	"	5	.090 .75

$$\begin{aligned}
 n &= 34 & 12 &= (11) \\
 \sum x &= 6.88 & &= (1.09) \\
 \sum x^2 &= 1.09 & &= (1.09) \\
 \bar{x} &= .20 & &= (.26) \\
 \bar{x}^2 &= .053 & &= (.053) \\
 k_{.05} &= .03 - .75 & &= (.03 - .75)
 \end{aligned}$$

$$S^2 = \frac{1.09 - (12)(.053)}{11} = \frac{.452}{11} = .04$$

$$SE = \sqrt{\frac{.04}{12}} = \sqrt{.0033} = .057$$



Field

PHRYNOSOMA M'CALLI

45°C

Lizard			
No.	Sex	Weight	Date
216	♀	13.6	8/64
217	♀	14.9	"
218	♀	14.6	"
219	♀	16.5	9/64
220	♀	21.3	10/64
9	♂	9.6	"

<u>O<sub>2</sub> (cc/gm/hr)</u>			
No.	$\bar{X}$	STP X	STP X <sup>2</sup>
13	3.36	2.75	7.56
13	2.16	1.77	3.13
13	0.51	0.42	0.18
13	1.69	1.38	1.90
10	0.46	0.37	0.14
10	2.63	2.16	4.67

$$N = 72 \quad 6 \quad 6$$

$$\Sigma X = 8.85$$

$$\Sigma X^2 = 17.58$$

$$\bar{X} = 1.46$$

$$\bar{X}^2 = 2.13$$

$$\text{Range} = 0.37 - 2.75$$

$$s^2 = \frac{17.58 - 6(2.13)}{5} = \frac{4.80}{5} = .96$$

$$SE = \sqrt{\frac{.96}{6}} = \sqrt{.16} = .40$$

$$\begin{pmatrix} 2.26 \\ 0.66 \end{pmatrix}$$





% Increase

% Increase

Field

Graph No.	Lizard No.	15°-25° Increase		25°-35° Increase	
		15°	25°	35°	Diff. %
1	2	.09	.09	.44	
2	3	.09	.18	.40	
3	120	.03	.06	.43	
4	122	.10	.19	.24	
5	124	.03	.05	.47	
6	121	.03	.10	.13	
7	125	.04	.09	.17	
8	119	.02	.04	.09	
9	118	.04	.08	.13	
10	123	.09	.10	.28	



## Outdoor cage

Graph No.	Lizard No.	15°-25° Increase		25°-35° Increase	
		15°	25°	35°	Diff. %
1	103	.07	.11	.35	
2	105	.05	.18	.14	
3	110	.11	.14	.23	
4	97	.08	.18	.21	
5	299	.05	.33	.42	
6	117	.02	.26	.30	
7	287	.15	.30	.51	
8	200+109	.06	.25	.11	
9	86	.06	—	.13	
10	101	.03	.26	.12	



## Cold room

Graph No.	Lizard No.	15°-25° Increase		25°-35° Increase	
		15°	25°	Diff.	%
1	103	.07	.29		.30
2	105	.14	.28		.23
3	110	.05	.20		.19
4	97	.10	.17		.11
5	299	.04	.42		.53
6	117	.06	.35		.48
7	287	.04	.28		.49
8	200+109	.14	.32		.20
9	86	.02	.06		.04
10	101	.05	.18		.14





15°C cage (dark)

Graph No.	Lizard No.	15°		15°-25° Increase		25°-35° Increase	
		15°	25°	Diff.	%	35°	Diff
1	85	.01	.11			.12	
2	45	.08	.05			.09	
3	86	.06	.04			.09	
4	103+20+30	.01	.06			.11	
5	200+109	.05	.10			.12	
6							
7							
8							
9							
10							



15°C cage (7 hrs. light)

Graph No.	Lizard No.	15°	25°	15-25° Increase Diff.	%	35°	25-35° Increase Diff.	%
1	81	.01	.11			.11		
2	299	.10	.07			.12		
3	67	.17	.04			.09		
4	54	.11	.17			.09		
5	71	.13	.05			.14		
6	41	.01	.15			.11		
7								
8								
9								
10								



# 15°C (combined)

Graph No.	Lizard No.	15°		15°-25° Increase		35°	25°-35° Increase	
				Diff.	%		Diff.	%
1	85	.01	.11			.12		
2	45	.08	.05			.09		
3	86	.06	.04			.09		
4	103+20+30	.01	.06			.11		
5	200+109	.05	.10			.12		
6	81	.01	.11			.11		
7	299	.10	.07			.12		
8	67	.17	.04			.09		
9	54	.11	.17			.09		
10	71	.13	.05			.14		
11	41	.01	.15			.11		



25°C cage

Graph No.	Lizard No.	15°	25°	15-25° Diff.	Increase %	35°	25-35° Diff	Increase %
1	297	.11	.19			.09		
2	97	.09	.13			.08		
3	39	.03	.04			.11		
4	102	.02	.21			.17		
5	37	.01	.21			.17		
6	108	.01	.02			.13		
7	87	.02	.11			.09		
8	64	.01	.05			.08		
9	29	.01	.13			.08		
10	23	.01	.09			.28		
11	292	.03	.04			.36		





35°C cage

Graph No.	Lizard No.	15°	25°	15-25° Increase		35°	25-35° Increase	
				Diff.	%		Diff.	%
1	40	.03	.09			.04		
2	95	.03	.07			.12		
3	17	.04	.06			.11		
4	80	.05	.11			.19		
5	117	.04	.32			.46		
6	89	.16	.24			.26		
7	15	.09	.04			.45		
8	201+3	.13	.20			.49		
9	114	.02	.09			.19		
10	56	.02	.23			.41		



Outdoor cage

Graph No.	Lizard No.	15°-25° Increase		25°-35° Increase	
		15°	25°	35°	Diff. %
1	121	.02	.25	.07	
2	122	.14	.07	.17	
3	116	.05	.09	.09	
4	208+100	.07	.04	.09	
5	69	.02	.04	.09	
6	106	.06	.08	.13	
7	93	.04	.35	.14	
8	49	.06	.18	.23	
9	208	.10	.25	.15	
10	88	.06	.11	.09	
11	213	.07	.23	.19	
12	63	.09	.16	.14	
13	123	.03	.13	.20	
14	72	.05	.04	.10	
15	92	.13	.15	.20	
16	16	.05	.02	.08	
17	203+1	.13	.24	.11	



Basal Metabolism

Basal Metabolism

# Lowest O<sub>2</sub> Consumption Values Measured at 15°C

Lizard No.	Month	Condition	O <sub>2</sub> (cc/gm/hr)
120	8	Field	.01
122	"	"	.05
124	"	"	.03
121	"	"	.02
125	"	"	.01
119	"	"	.02
118	"	"	.05
123	"	"	.05
2	"	"	.05
3	"	"	.05
<hr/>			
N=10		$\bar{X} = .03$	

Lizard No.	Month	Condition	O <sub>2</sub> (cc/gm/hr)
97	8	Out.	.04
200+109	"	"	.02
287	"	"	.11
103	"	"	.02
110	"	"	.05
51	"	"	.03
299	"	"	.03
101	"	"	.01
117	"	"	.01
105	"	"	.01
<hr/>			
N=10		$\bar{X} = .03$	

Lizard No.	Month	Condition	O <sub>2</sub> (cc/gm/hr)	Outside O <sub>2</sub> (cc/gm/hr)
103	9	15°	.05	— .02
105	"	"	.11	— .01
110	"	"	.04	— .05
97	"	"	.09	— .04
299	"	"	.03	— .03
117	"	"	.03	— .01
287	"	"	.03	— .11
200+109	"	"	.09	— .02
86	"	"	.01	
101	"	"	.03	— .01
<hr/>				
N=10		$\bar{X} = .05$		.03





# Lowest O<sub>2</sub> Consumption Values Measured at 15°C

Lizard No.	Month	Condition	O <sub>2</sub> (cc/gm/hr)
85	12	15°	.01
45	"	"	.01
86	"	"	.05
103+20+30	"	"	.01
200+109	"	"	.04
81	"	"	.01
299	"	"	.07
67	"	"	.10
54	"	"	.10
71	"	"	.02
41	"	"	.01
<hr/>			
N = 11		$\bar{X} =$	.04

Lizard No.	Month	Condition	O <sub>2</sub> (cc/gm/hr)
297	12	25°	.01
97	"	"	.05
39	"	"	.01
102	"	"	.01
37	"	"	.01
108	"	"	.01
87	"	"	.01
64	"	"	.01
29	"	"	.01
23	"	"	.01
292	"	"	.02
<hr/>			
N = 11		$\bar{X} =$	.01

Lizard No.	Month	Condition	O <sub>2</sub> (cc/gm/hr)
40	12	35°	.01
95	"	"	.03
17	"	"	.01
80	"	"	.02
117	"	"	.02
89	"	"	.15
15	"	"	.03
201+3	"	"	.11
114	"	"	.01
56	"	"	.02
<hr/>			
N = 10		$\bar{X} =$	.04



# Lowest O<sub>2</sub> Consumption Values Measured at 15°C

Lizard No.	Month	Condition	O <sub>2</sub> (cc/gm/hr)
121	12	Out.	.01
122	"	"	.06
116	"	"	.04
208+100	"	"	.04
69	"	"	.01
106	"	"	.04
93	"	"	.01
49	"	"	.05
208	"	"	.09
88	"	"	.05
213	"	"	.05
63	"	"	.09
123	"	"	.02
16	"	"	.03
72	"	"	.05
92	"	"	.10
203+1	"	"	.11
N=17		$\bar{X} =$	.05



Lowest O<sub>2</sub> Consumption Values Measured at 25°C

Lizard No.	Month	Condition	O <sub>2</sub> (cc/gm/hr)
120	8	Field	.03
122	"	"	.10
124	"	"	.04
121	"	"	.06
125	"	"	.08
119	"	"	.02
118	"	"	.07
123	"	"	.09
2	"	"	.07
3	"	"	.11
<u>N = 10</u>			<u><math>\bar{X} = .07</math></u>

Lizard No.	Month	Condition	O <sub>2</sub> (cc/gm/hr)
101	8	Out.	.18
200+109	"	"	.25
103	"	"	.07
287	"	"	.24
97	"	"	.12
299	"	"	.33
110	"	"	.12
117	"	"	.25
105	"	"	.11
<u>N = 9</u>			<u><math>\bar{X} = .18</math></u>

Lizard No.	Month	Condition	O <sub>2</sub> (cc/gm/hr)	Outside O <sub>2</sub> (cc/gm/hr)
103	9	15°	.26	— .07
105	"	"	.20	— .11
110	"	"	.13	— .12
97	"	"	.13	— .12
? 299	"	"	.40	— .33
117	"	"	.27	— .25
287	"	"	.22	— .24
200+109	"	"	.30	— .25
86	"	"	.05	
101	"	"	.11	— .18
<u>N = 10</u>			<u><math>\bar{X} = .21</math></u>	<u>.18</u>
<u>N = 9</u>			<u><math>\bar{X} = .18</math></u>	



# Lowest O<sub>2</sub> Consumption Values Measured at 25°C

Lizard No.	Month	Condition	O <sub>2</sub> (cc/gm/hr)
85	12	15°	.11
45	"	"	.04
86	"	"	.02
103+20+30	"	"	.04
200+109	"	"	.08
81	"	"	.10
299	"	"	.07
67	"	"	.03
54	"	"	.13
71	"	"	.04
41	"	"	.11
<hr/>			
N=11		$\bar{X} =$	.07

Lizard No.	Month	Condition	O <sub>2</sub> (cc/gm/hr)
297	12	25°	.18
97	"	"	.08
39	"	"	.03
102	"	"	.07
37	"	"	.17
108	"	"	.01
87	"	"	.10
64	"	"	.02
29	"	"	.10
23	"	"	.06
292	"	"	.02
<hr/>			
N=11		$\bar{X} =$	.08

Lizard No.	Month	Condition	O <sub>2</sub> (cc/gm/hr)
40	12	35°	.04
95	"	"	.06
17	"	"	.05
80	"	"	.07
117	"	"	.30
89	"	"	.23
15	"	"	.04
201+3	"	"	.19
114	"	"	.05
56	"	"	.21
<hr/>			
N=10		$\bar{X} =$	.12





# Lowest O<sub>2</sub> Consumption Values Measured at 25°C

<u>Lizard No.</u>	<u>Month</u>	<u>Condition</u>	<u>O<sub>2</sub> (cc/gm/hr)</u>
121	12	Out.	.05
122	"	"	.05
116	"	"	.07
208+100	"	"	.05
69	"	"	.04
106	"	"	.01
93	"	"	.28
49	"	"	.13
208	"	"	.20
213	"	"	.16
88	"	"	.08
123	"	"	.09
63	"	"	.11
72	"	"	.01
92	"	"	.02
16	"	"	.03
<u>203+1</u>	"	"	<u>.19</u>
N=17			$\bar{X} = .09$



# Lowest O<sub>2</sub> Consumption Values Measured at 35°C

Lizard No.	Month	Condition	O <sub>2</sub> (cc/gm/hr)
120	8	Field	.14
122	"	"	.13
? 124	"	"	.47 omit
121	"	"	.11
125	"	"	.11
119	"	"	.05
118	"	"	.09
123	"	"	.04
2	"	"	.23
3	"	"	.31
<hr/>			
N = 9		$\bar{X} =$	.13

Lizard No.	Month	Condition	O <sub>2</sub> (cc/gm/hr)
101	8	Out.	.07
200+109	"	"	.11
103	"	"	.17
287	"	"	.13
86	"	"	.06
97	"	"	.06
299	"	"	.14
110	"	"	.13
117	"	"	.11
105	"	"	.09
<hr/>			
N = 10		$\bar{X} =$	.11

Lizard No.	Month	Condition	O <sub>2</sub> (cc/gm/hr)	Outside O <sub>2</sub> (cc/gm/hr)
103	9	15°	.13	.17
105	"	"	.20	.09
110	"	"	.08	.13
97	"	"	.05	.06
? 299	"	"	.38	.14
? 117	"	"	.37	.11
? 287	"	"	.40	.13
200+109	"	"	.14	.11
86	"	"	.02	.06
101	"	"	.06	.07
<hr/>				
N = 10		$\bar{X} =$	.18	.11
N = 7		$\bar{X} =$	.10	



Lowest O<sub>2</sub> Consumption Values Measured at 35°C

Lizard No.	Month	Condition	O <sub>2</sub> (cc/gm/hr)
85	12	15°	.11
45	"	"	.09
86	"	"	.08
103+20+30	"	"	.09
200+109	"	"	.11
81	"	"	.04
299	"	"	.10
67	"	"	.09
54	"	"	.04
71	"	"	.11
41	"	"	.11
<hr/>			
N = 11			$\bar{X} = .09$

Lizard No.	Month	Condition	O <sub>2</sub> (cc/gm/hr)
297	12	25°	.06
97	"	"	.07
39	"	"	.07
102	"	"	.05
37	"	"	.13
108	"	"	.10
87	"	"	.07
64	"	"	.05
29	"	"	.08
? 23	"	"	.26
? 292	"	"	.29
<hr/>			
N = 11			$\bar{X} = .11$
N = 9			$\bar{X} = .08$

Lizard No.	Month	Condition	O <sub>2</sub> (cc/gm/hr)
40	12	35°	.03
95	"	"	.11
17	"	"	.09
80	"	"	.14
? 117	"	"	.44
89	"	"	.16
15	"	"	.20
? 201+3	"	"	.47
114	"	"	.05
56	"	"	.22
<hr/>			
N = 10			$\bar{X} = .19$
N = 8			$\bar{X} = .12$



# Lowest O<sub>2</sub> Consumption Values Measured at 35°C

<u>Lizard</u> <u>No.</u>	<u>Month</u>	<u>Condition</u>	<u>O<sub>2</sub></u> <u>(cc/gm/hr)</u>
121	12	Out.	.05
122	"	"	.13
116	"	"	.10
208+100	"	"	.07
69	"	"	.07
106	"	"	.11
93	"	"	.12
49	"	"	.07
208	"	"	.12
213	"	"	.17
88	"	"	.07
123	"	"	.16
63	"	"	.14
72	"	"	.10
92	"	"	.15
16	"	"	.05
<u>203+1</u>	"	"	<u>.11</u>
N = 17		$\bar{X} =$	.10





Graphs

Graphs

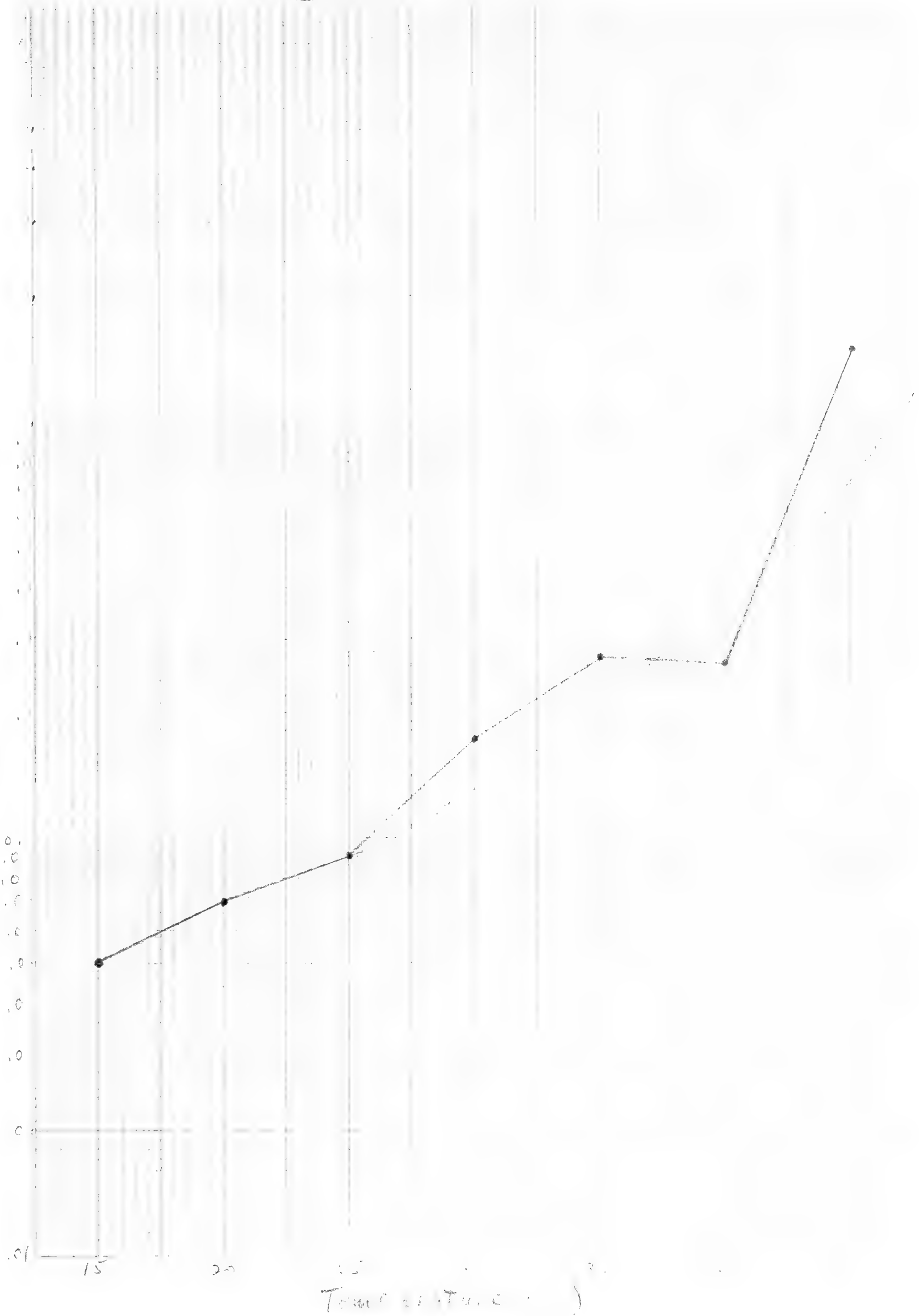


I.R. - 13  
8 1/2 x 11



Figure 1

O<sub>2</sub> consumption (cc/gm/hr)



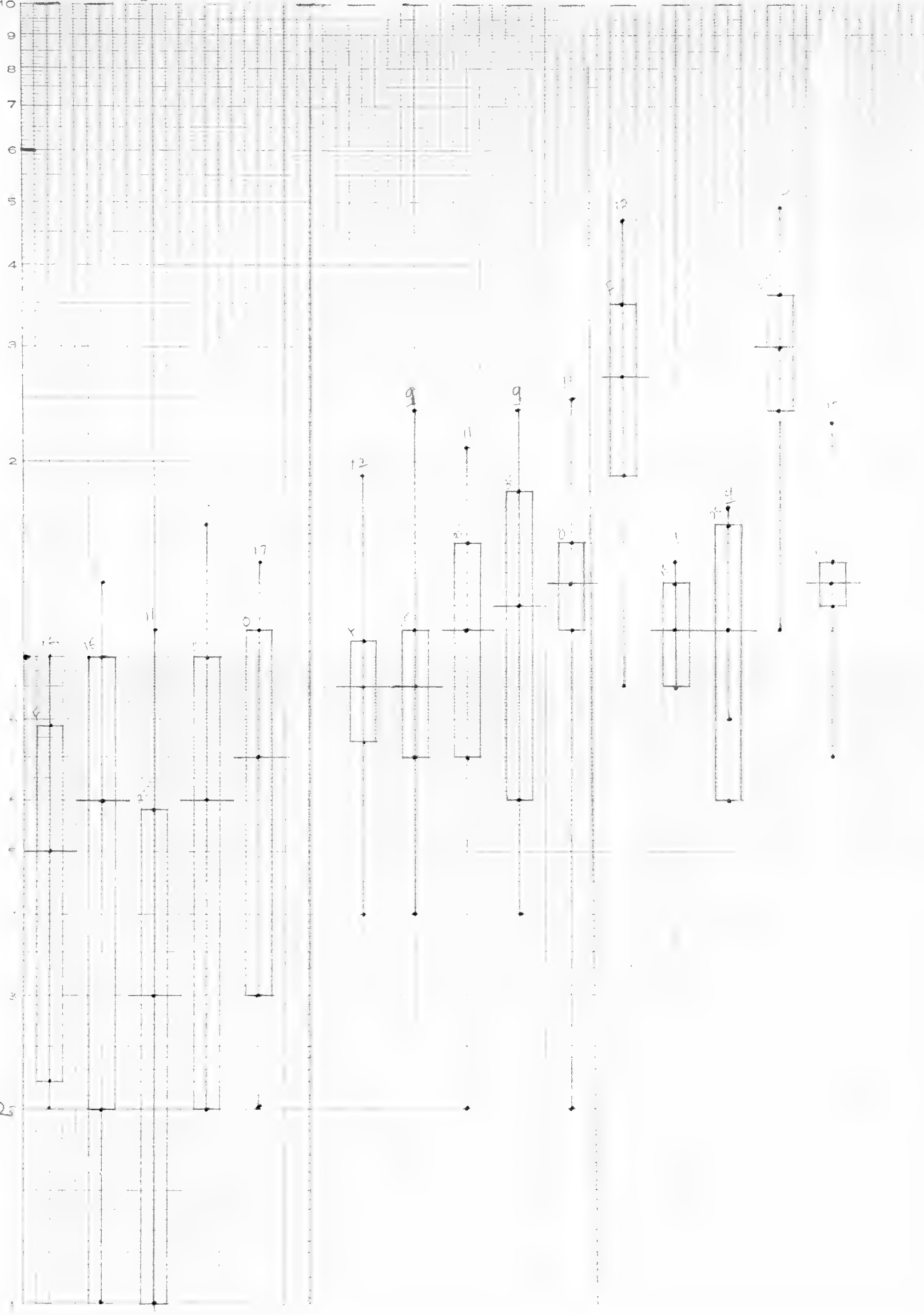


LINE, OFFICE, CO

1,0

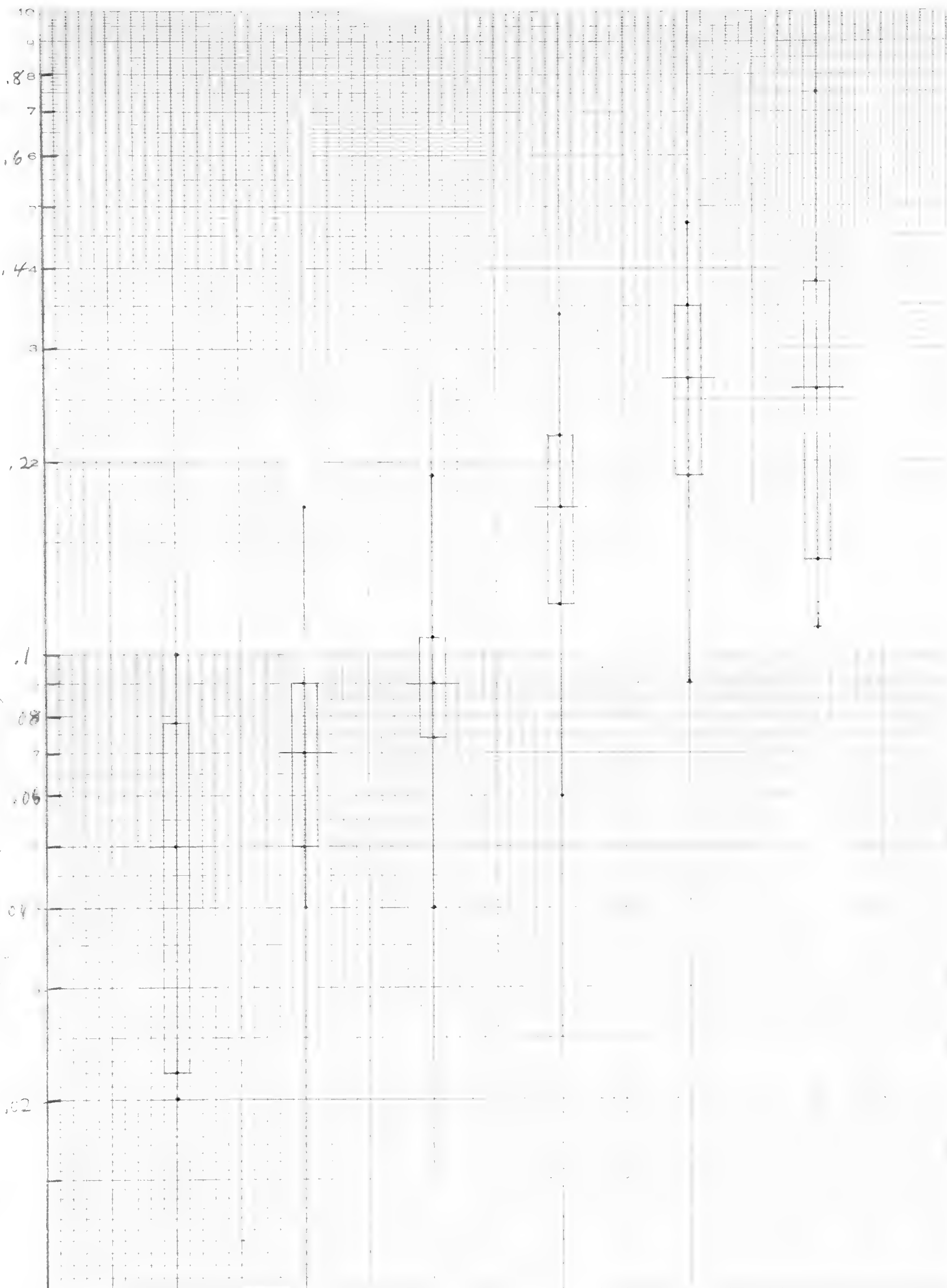
1,1

1,02





EUGENE ORTIZ BEN CO







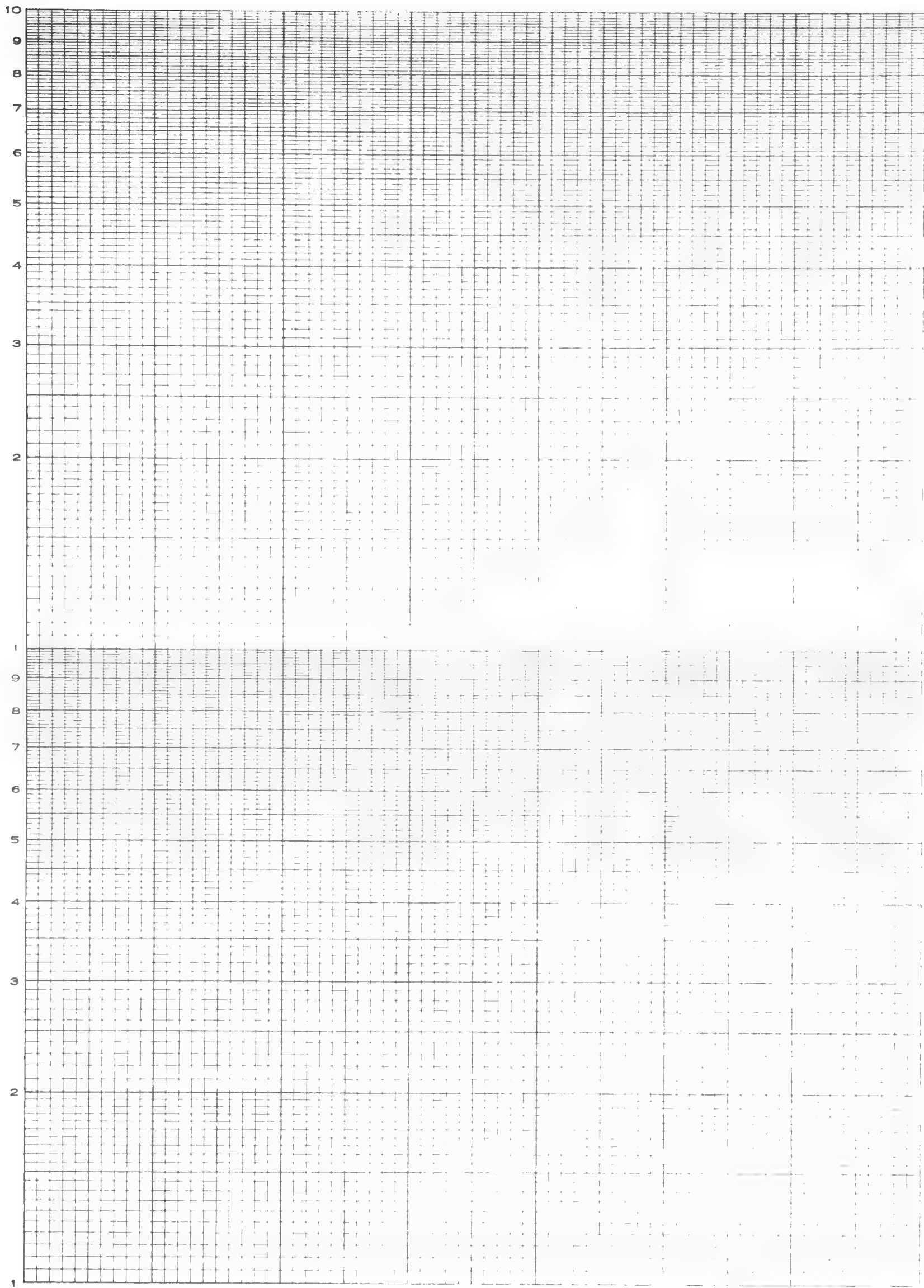
100 100 100 100 100 100 100 100 100 100



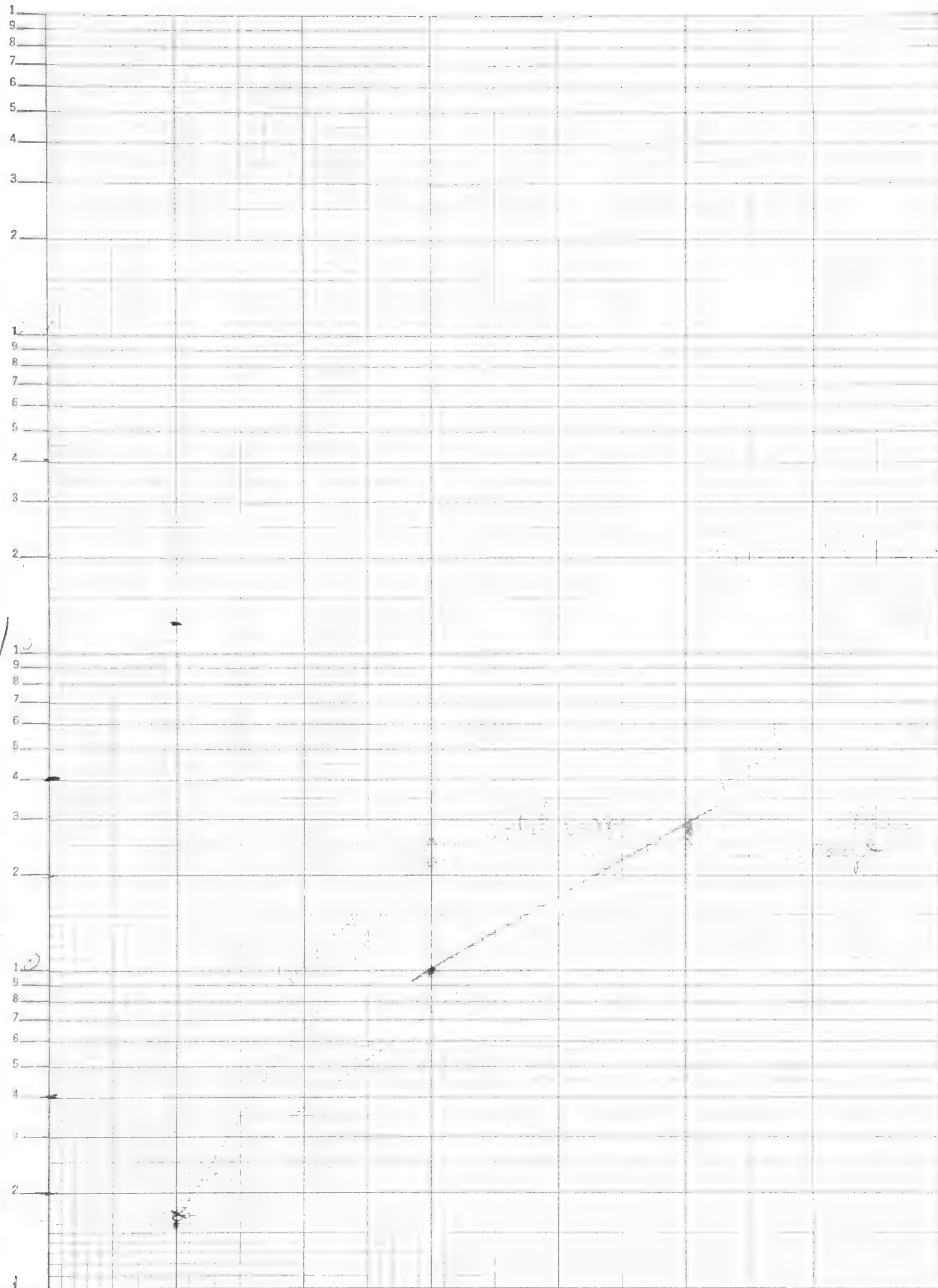


EUGENE DIETZGEN CO.  
MADE IN U.S.A.

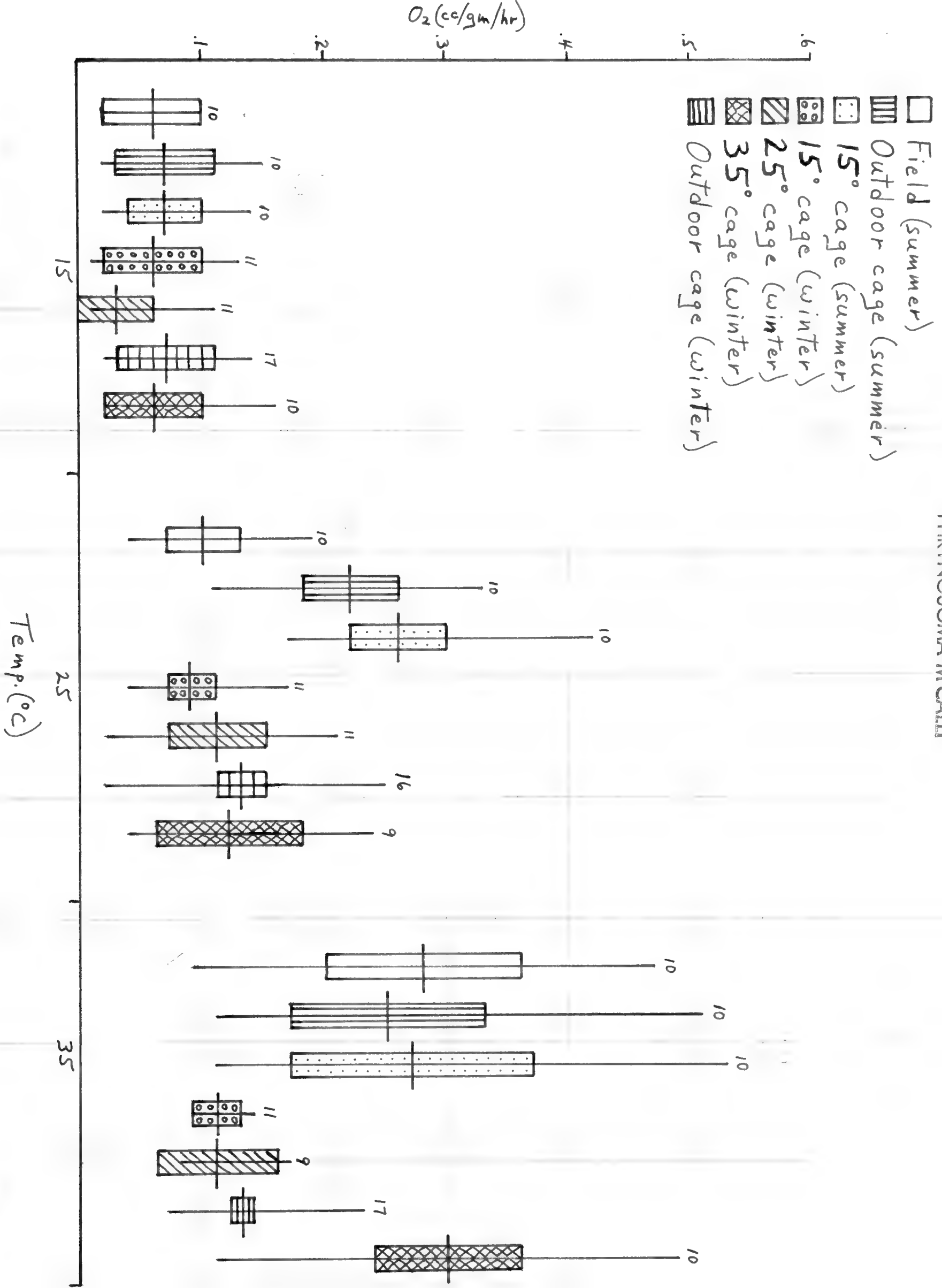
NO. 340-L210 DIETZGEN GRAPH PAPER  
SEMI-LOGARITHMIC  
2 CYCLES X 10 DIVISIONS PER INCH







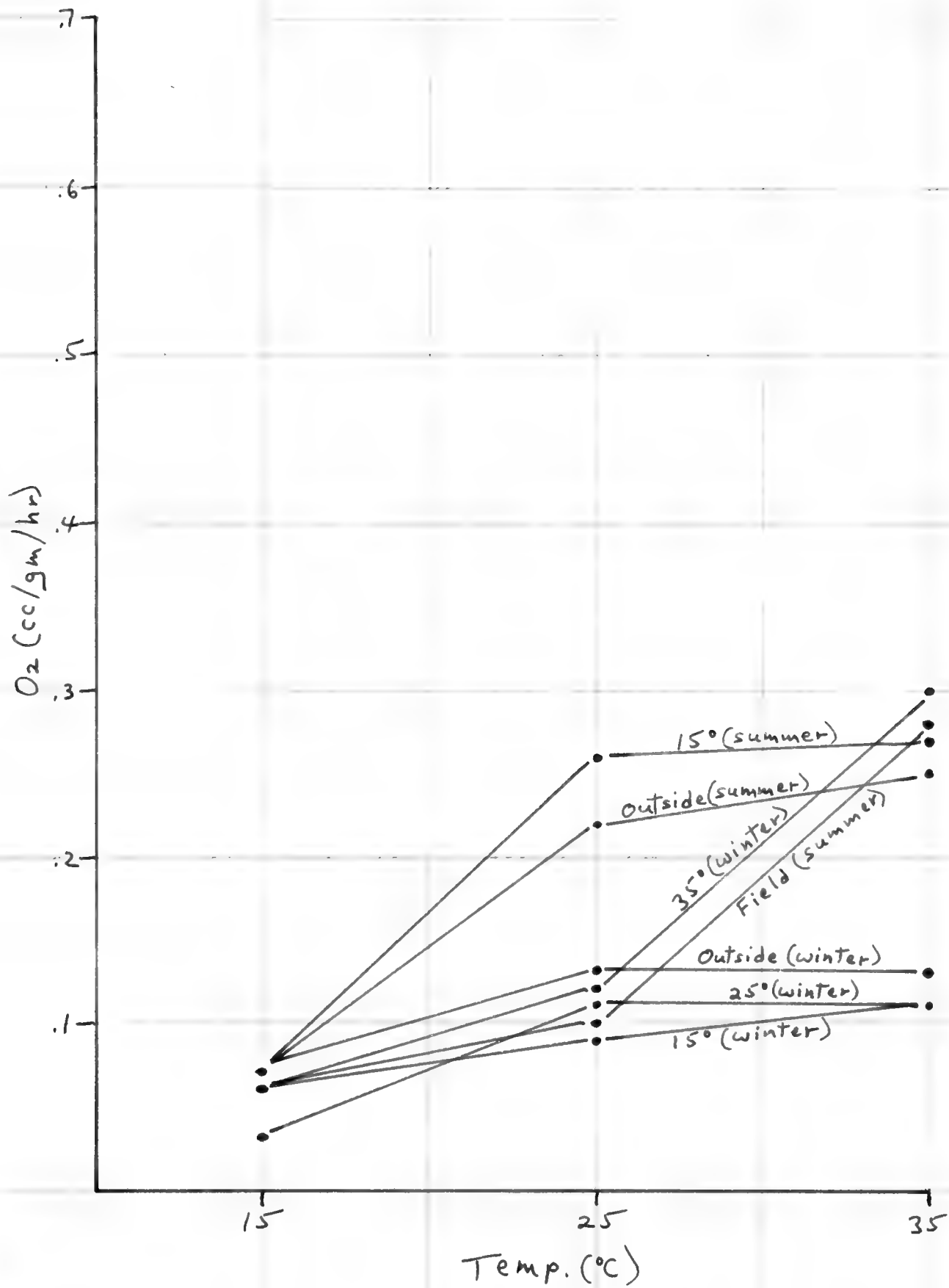






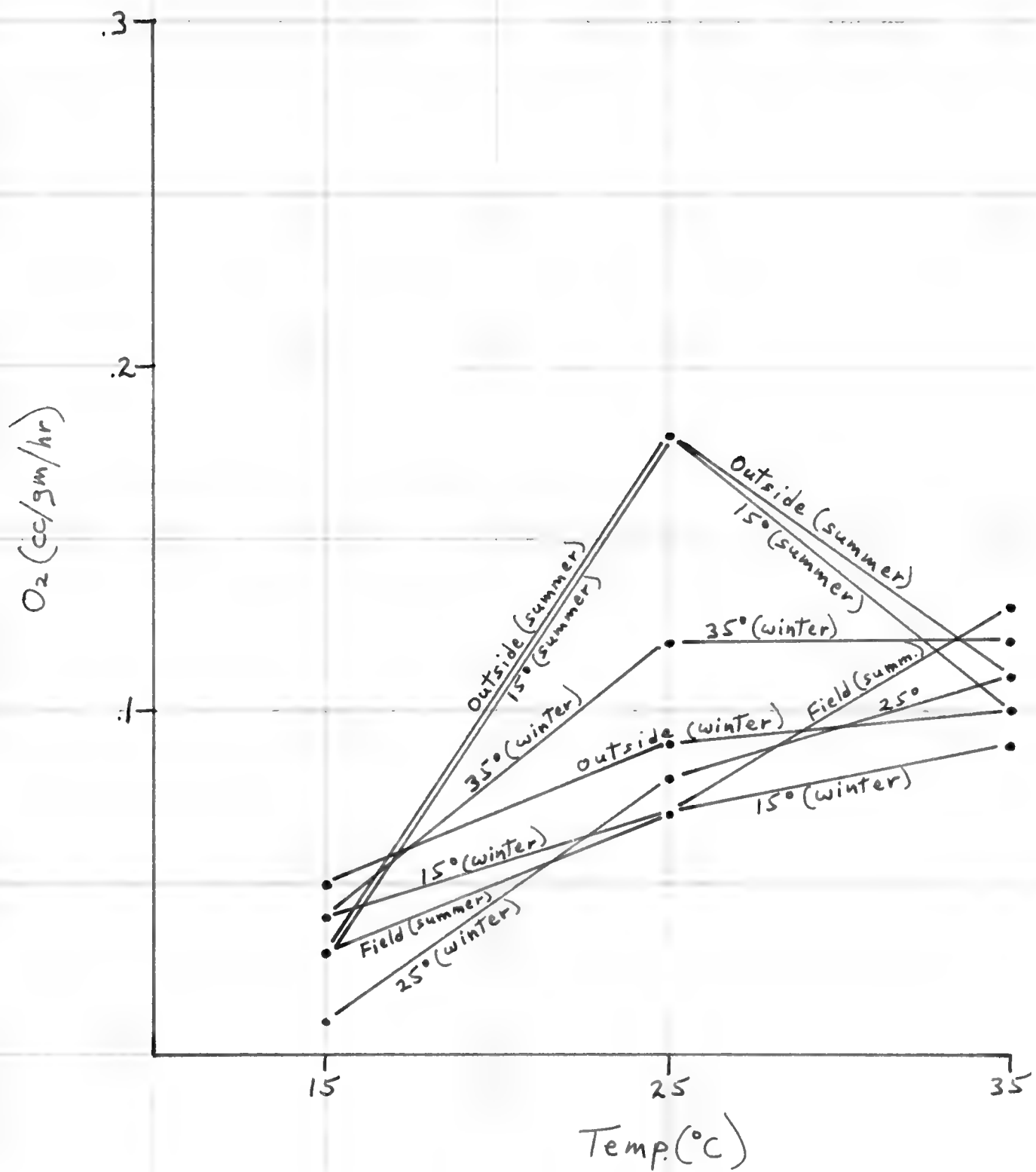


# PHRYNOSOMA M'CALLI

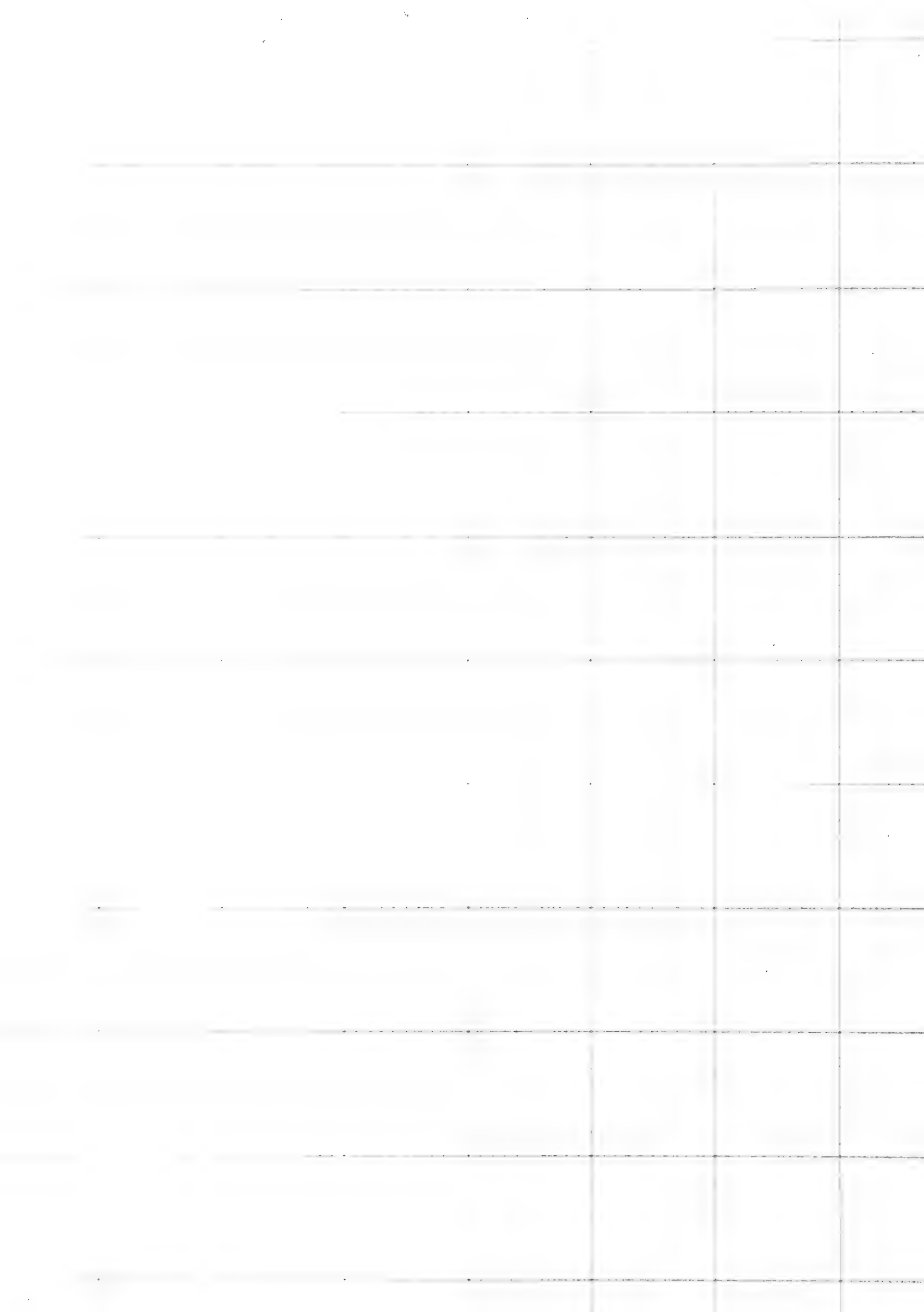









(Means)

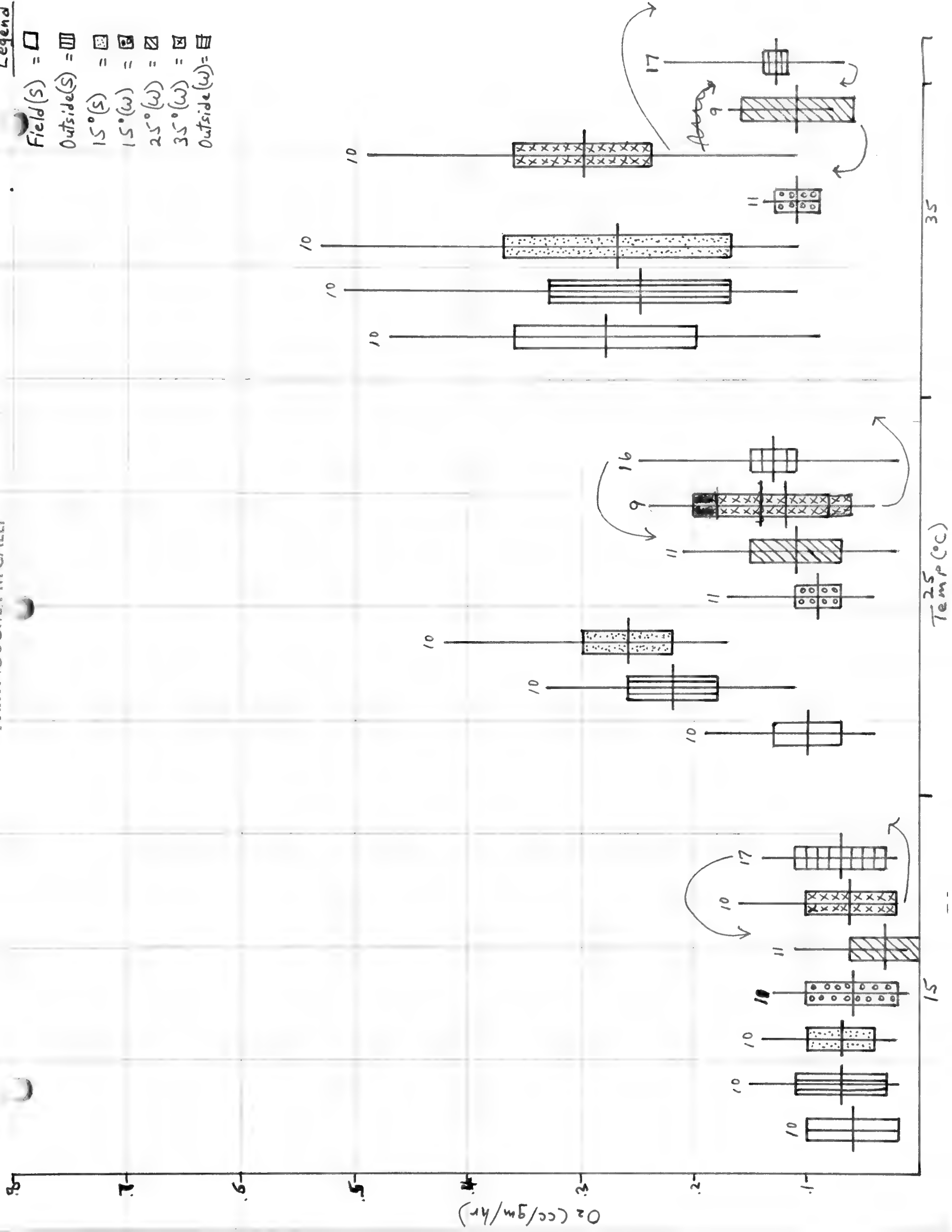




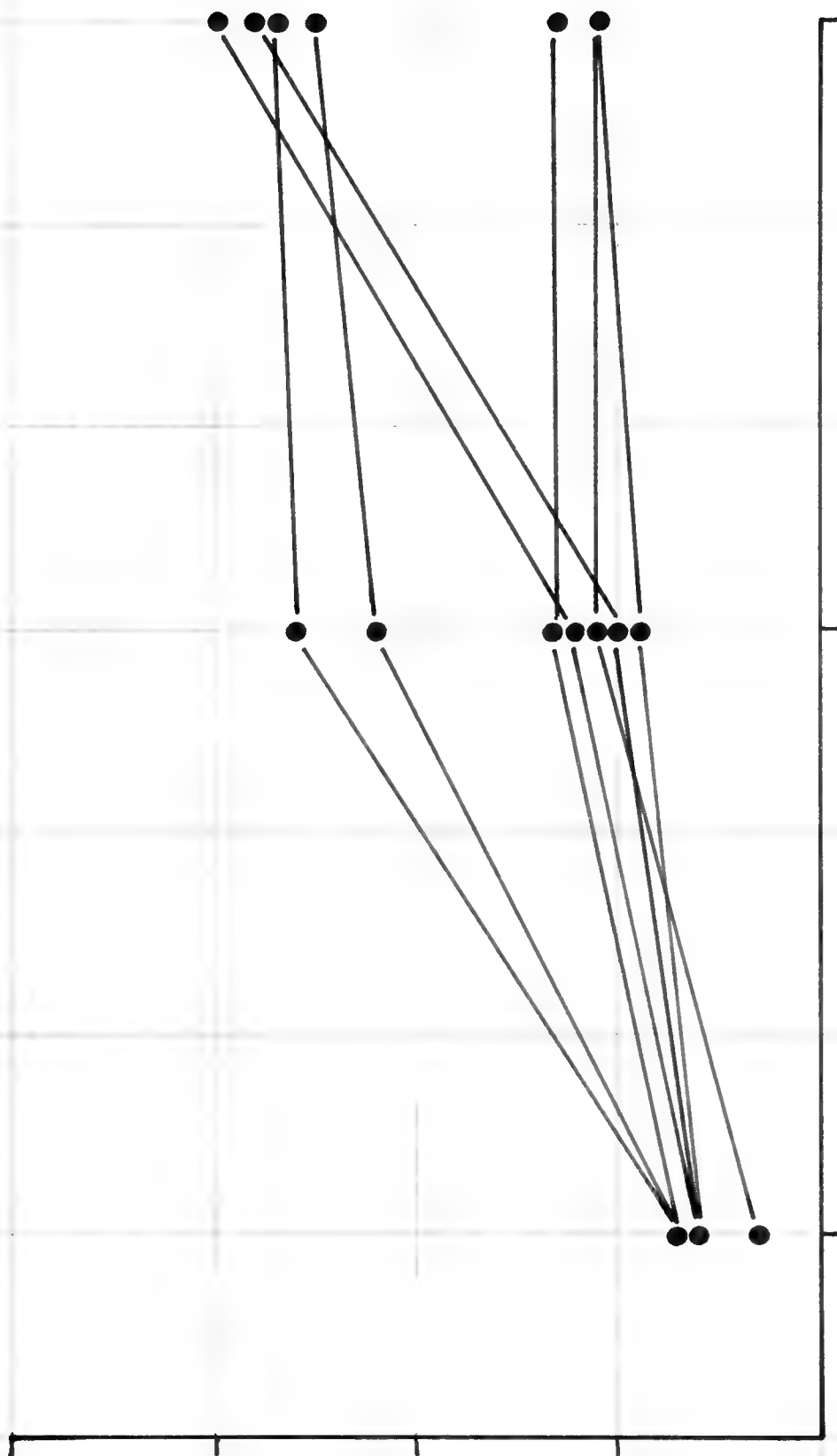
(Basal Metabolic Rates)



- Field(s) = 
- Outside(s) = 
- 15°(s) = 
- 15°(w) = 
- 25°(w) = 
- 35°(w) = 
- Outside(w) = 







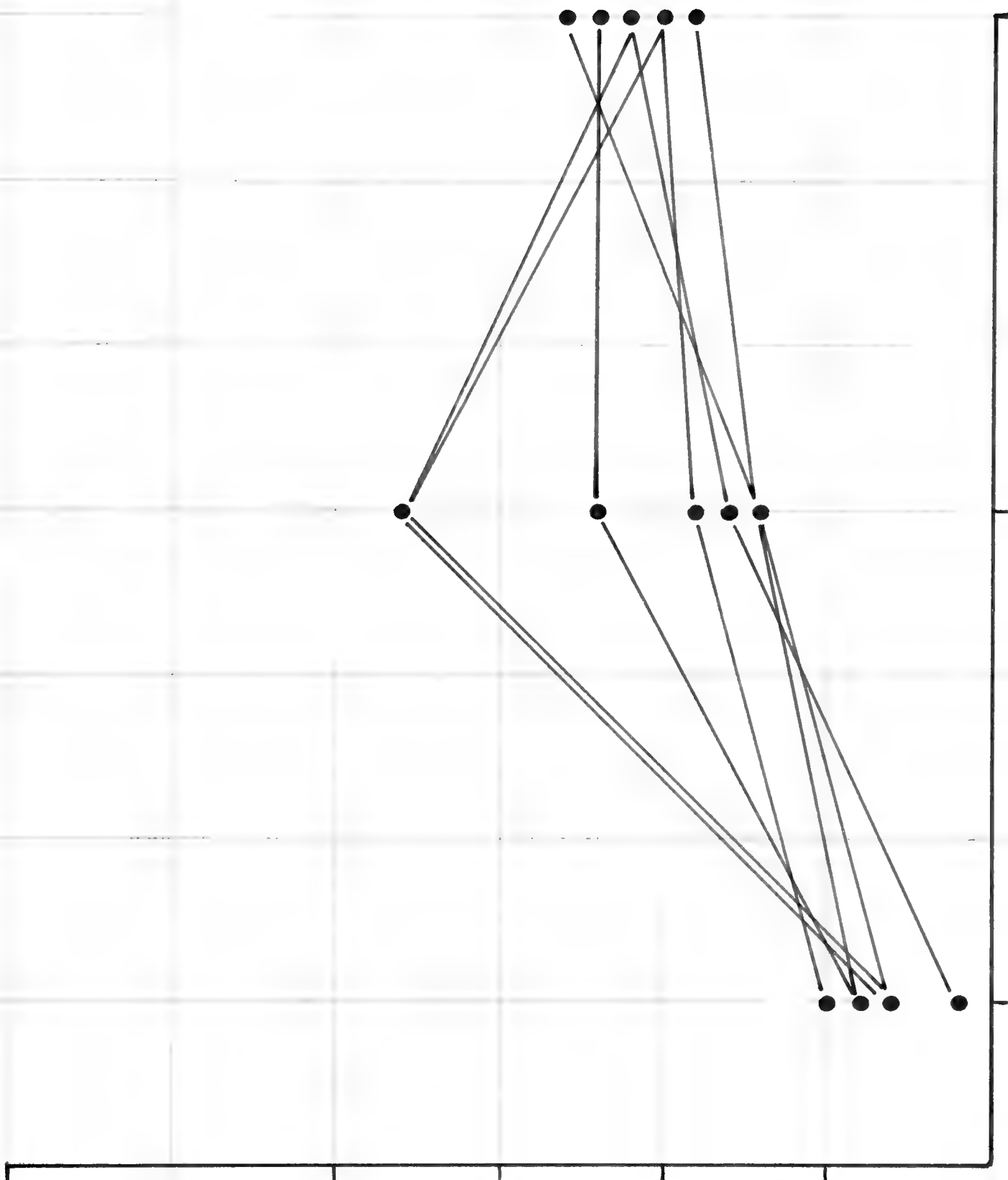
(Means) 1

PHRYNOSOMA M'CALLI

1

1



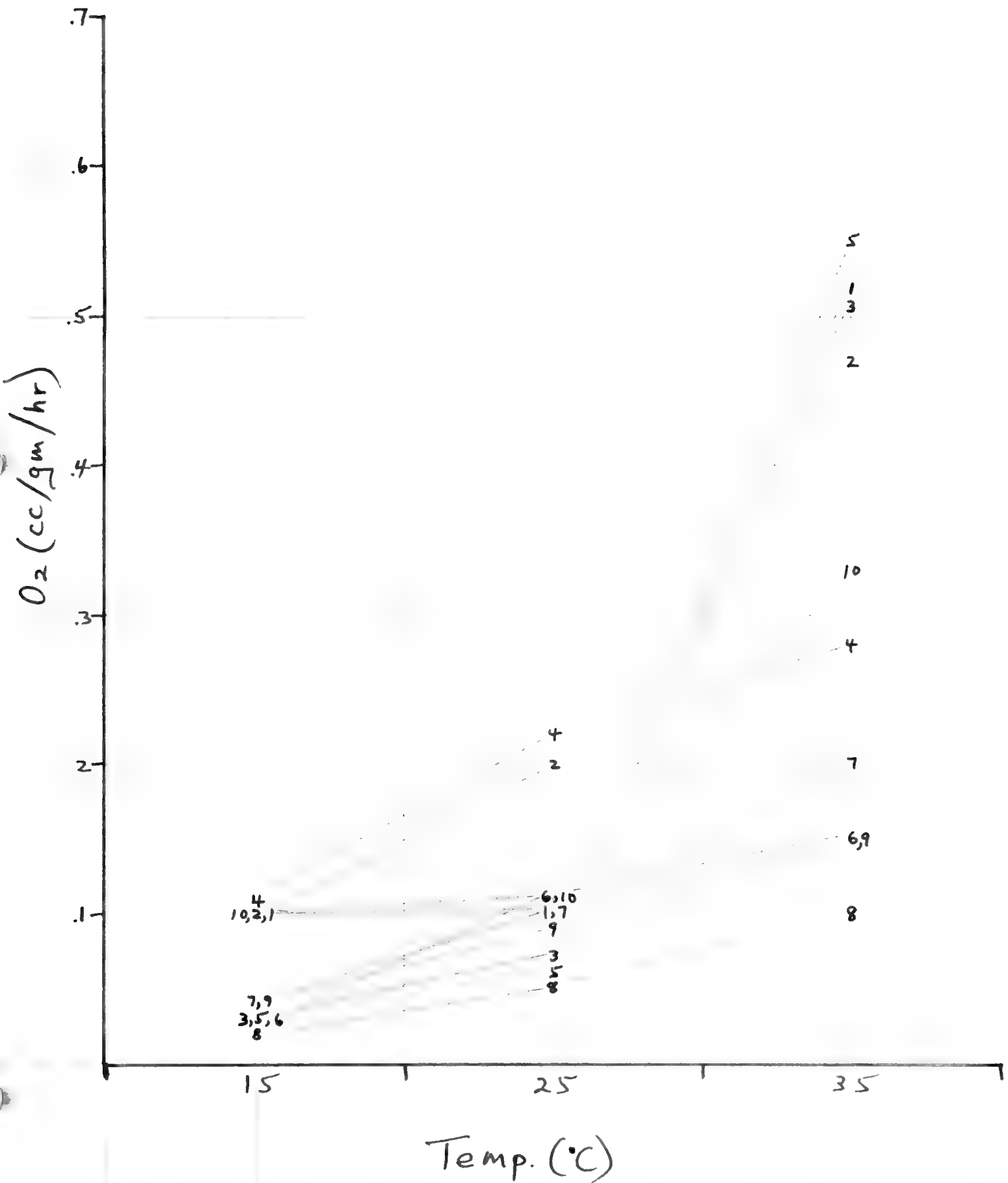


(Basal Metabolic Rates)

PHRYNOSOMA M'CALLI

Phrynosoma m'calli

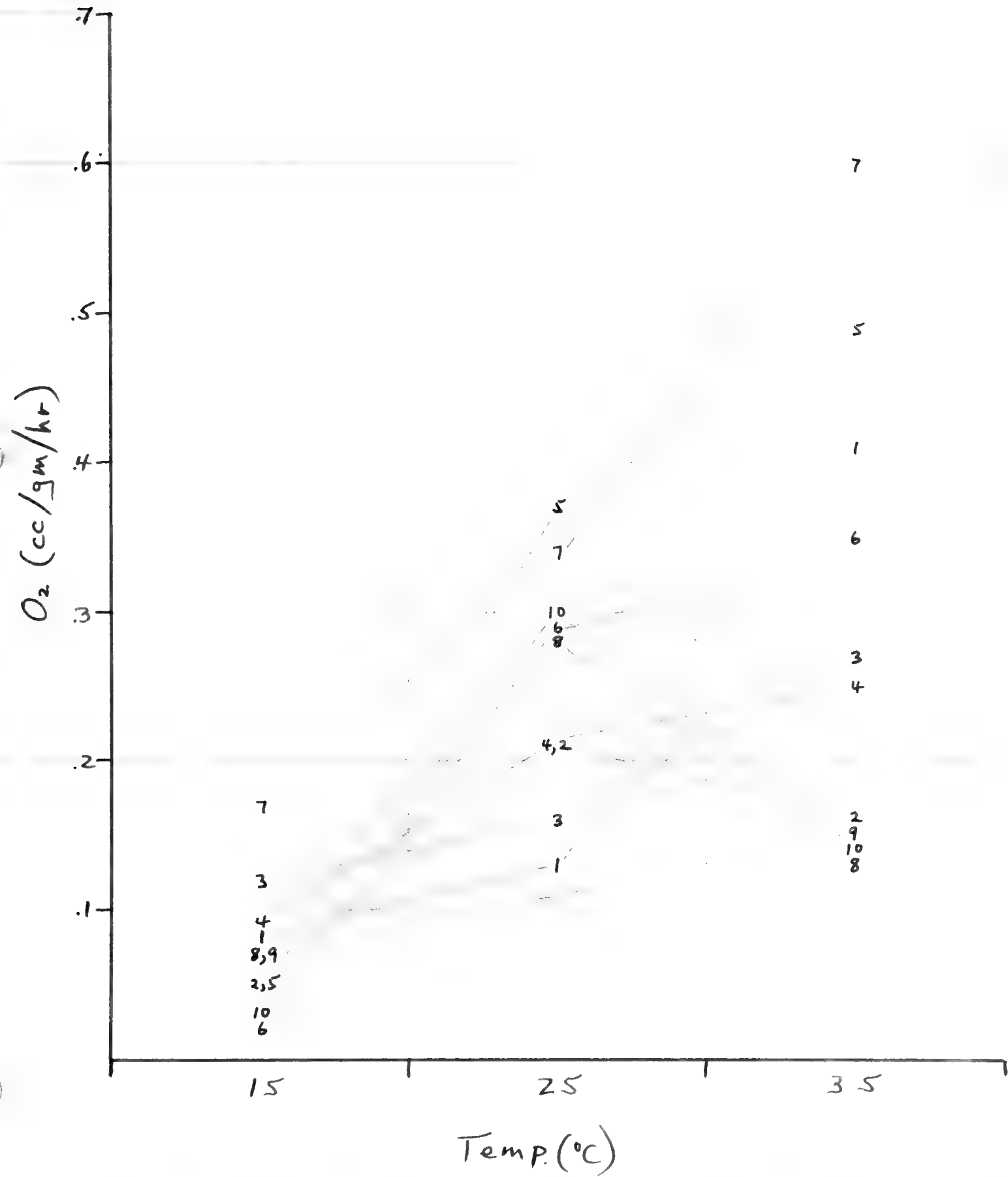
Field





Phrynosoma m'calli

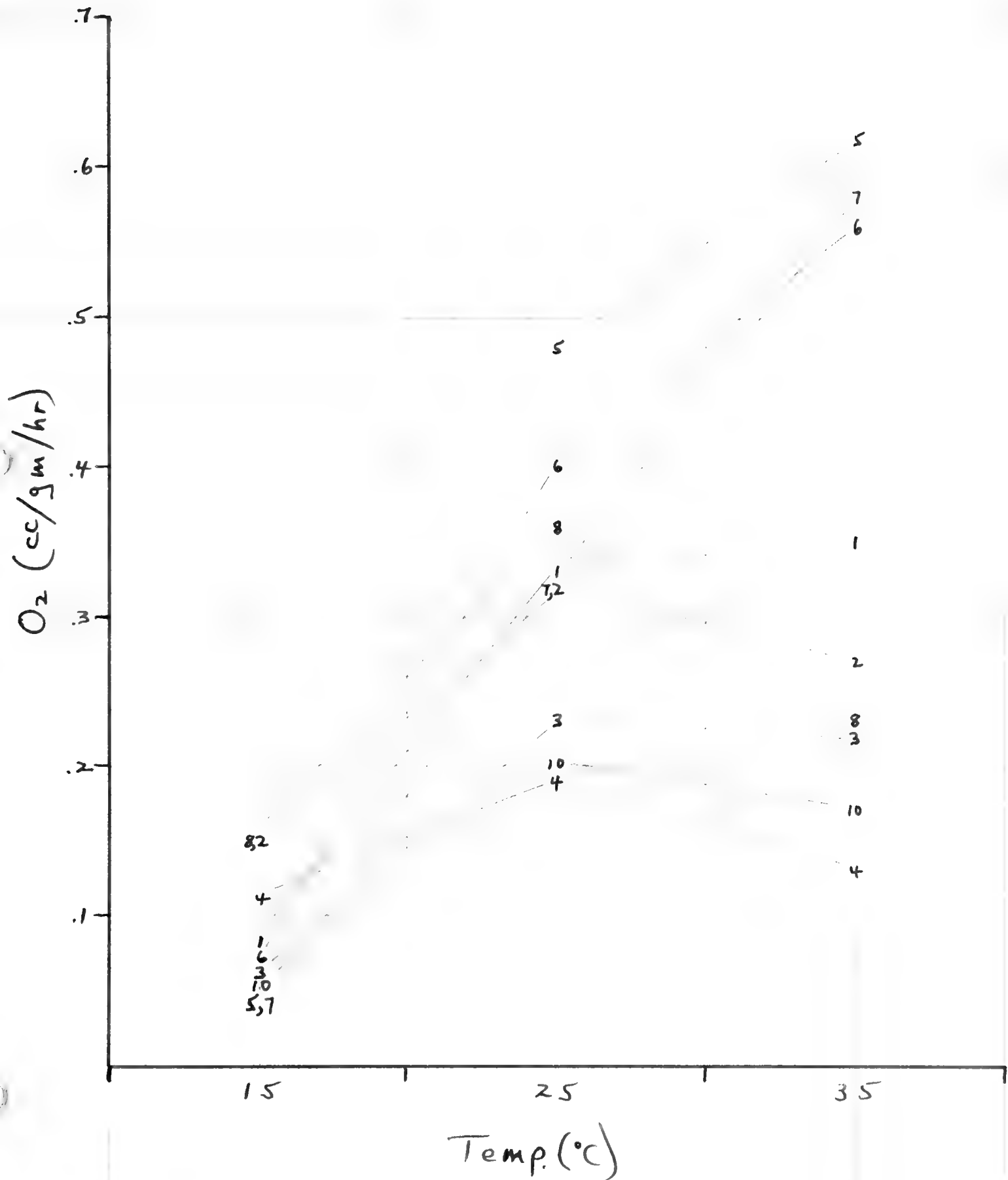
Outdoor cage





Phrynosoma m'calli

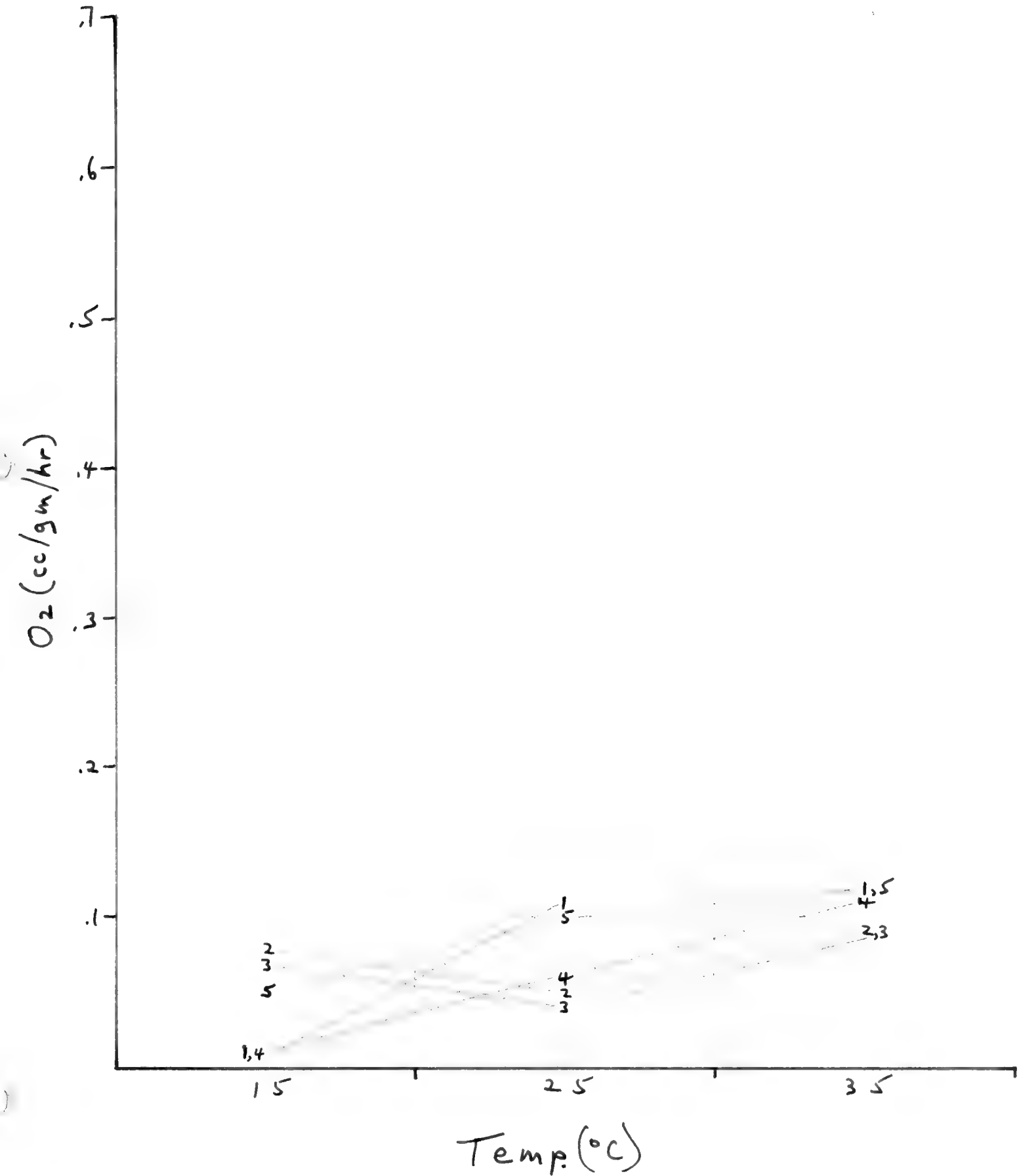
Cold room





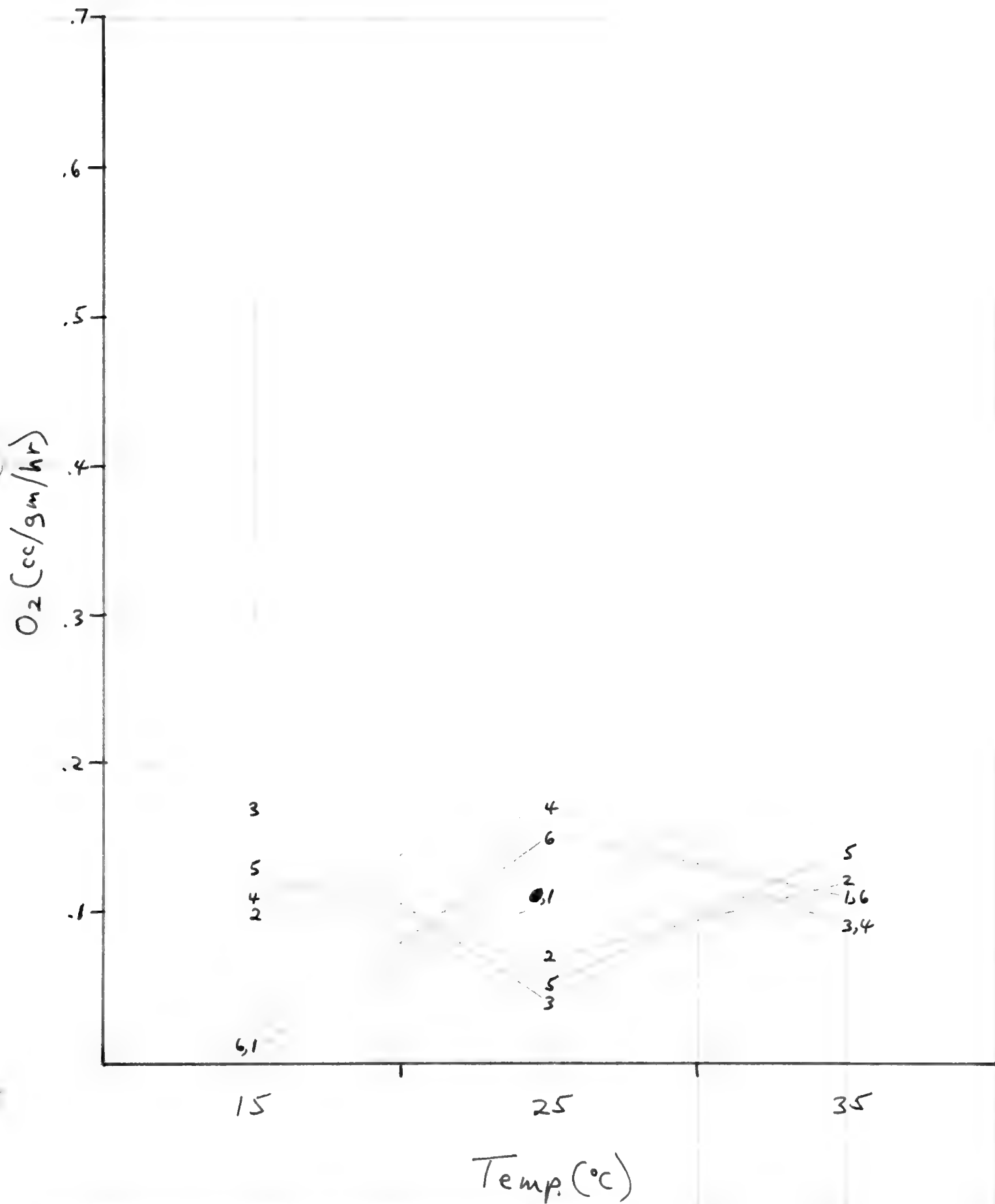


15°C cage (dark)  
(winter)





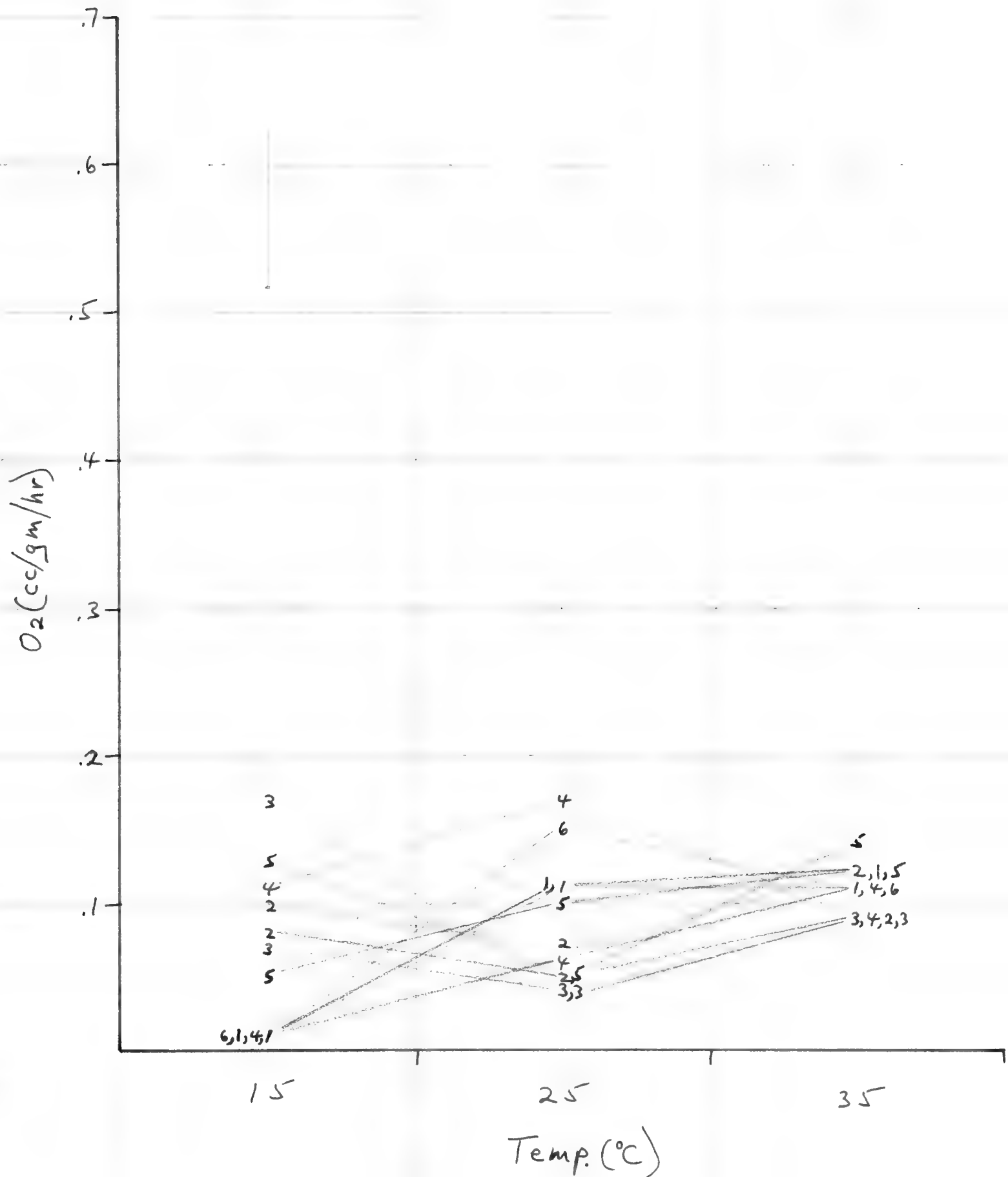
15°C (light)  
(winter)





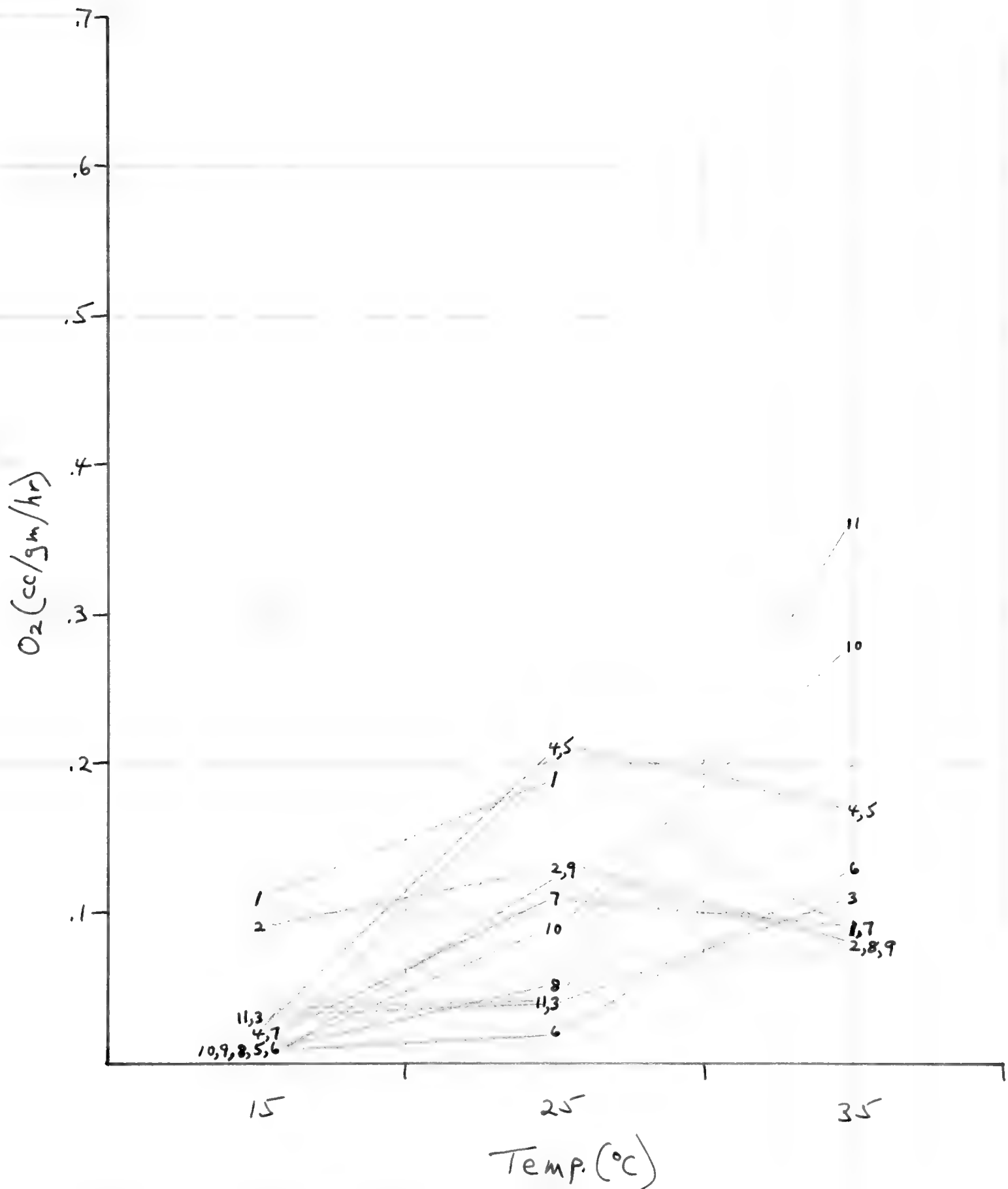
15°C cage (combined)  
(winter)

Legend  
lizards in light = —  
lizards in dark = - - -





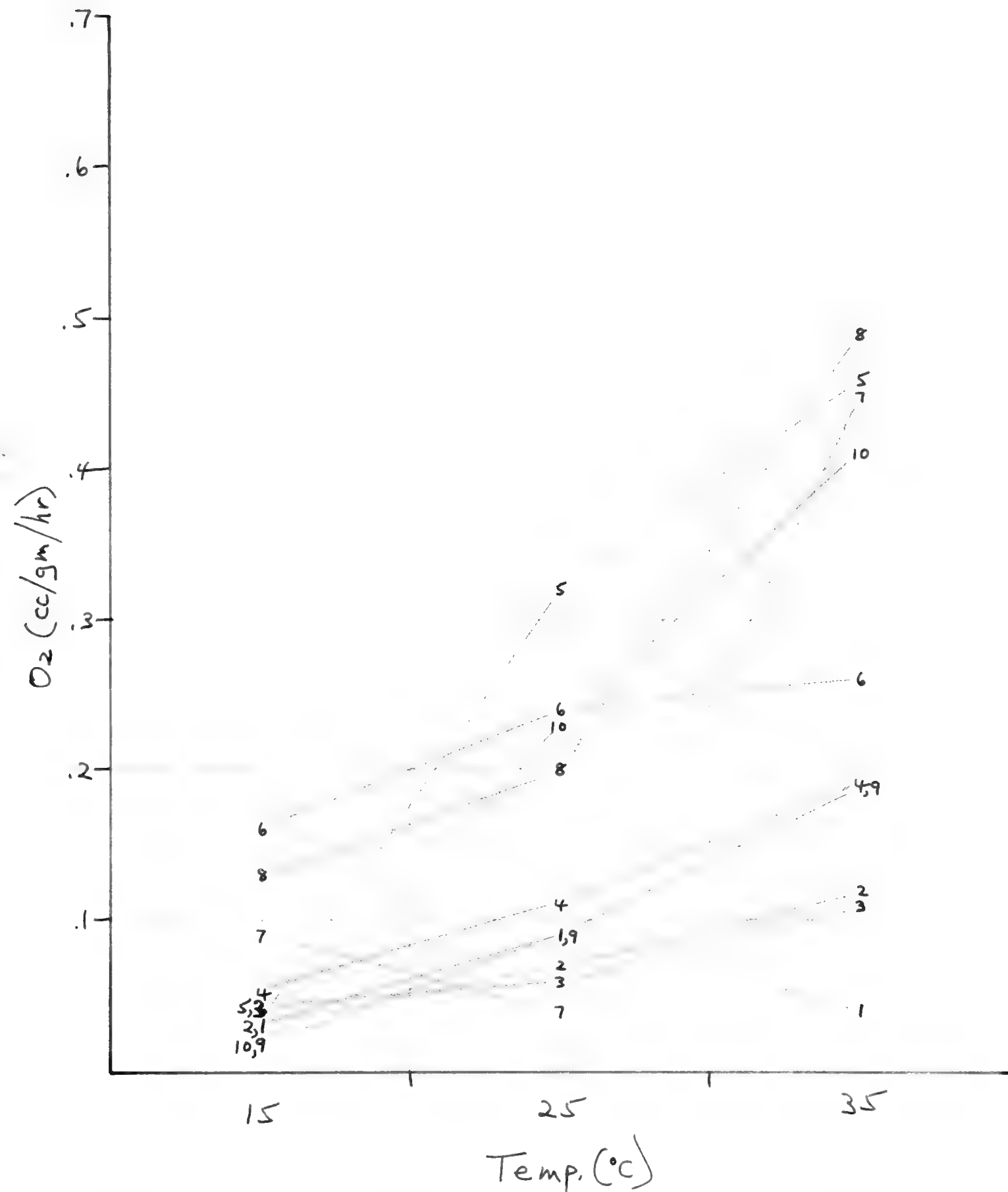
25°C cage







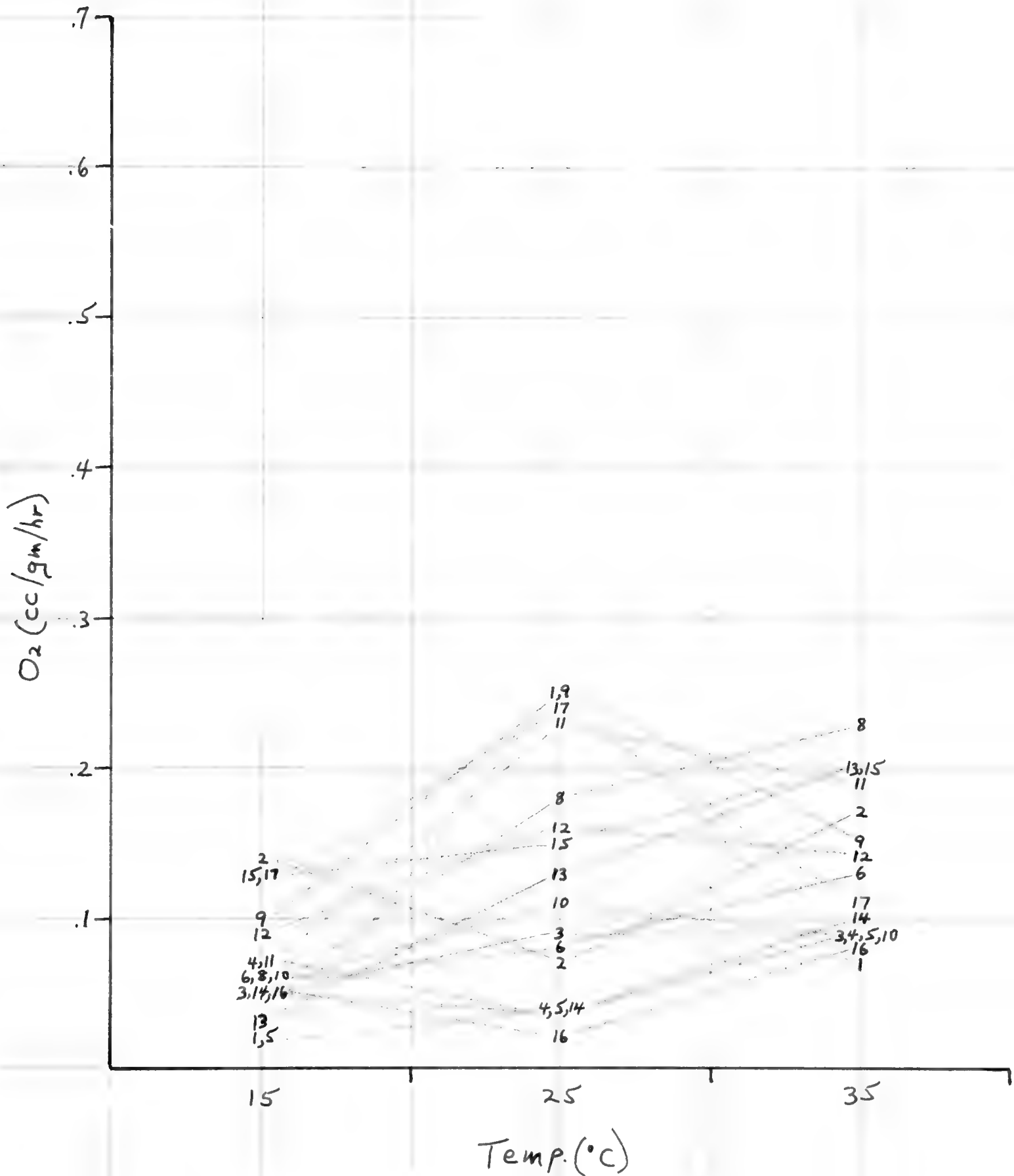
35°C cage





# PHRYNOSOMA M'CALLI

Outdoor cage (winter)





Miscellaneous

Phrynosoma m'calli

1/3/64 - All emerged lizards ate heartily

1/17/64 - ♂♂ fighting

1/21/64 - attempted copulation

2/6/64 - definitely successful mating

2/17/64 - fertile eggs laid

(Hibernation experiment)

## References:

- 1) Wurtman, R.J. et al. 1963. Melatonin synthesis in the pineal gland: Control by light. *Science*, 142: 1071-1073. (reprint # 1526)  
great increase in melatonin-synthesizing-enzyme in rats held in darkness (in pineal gland). Melatonin appears to have hormonal role in ~~rats~~ mammals & its synthesis is confined to pineal gland. Thus light inhibition of the synthesizing enzyme (H10MT) may be a mechanism of neuroendocrine regulation.





**R-371**

**STEEL BACKPLATE**

**S. E. & M. VERNON, INC.**

**U. S. A**



